Xcel Energy®

PARTNERS IN ENERGY
An Xcel Energy Community Collaboration

An Energy Action Plan for

Centennial, CO

October 2018

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Members of Centennial's Energy Action Team at their final planning workshop in October 2018.

Acknowledgements

Thanks to the following organizations and individuals for participating in developing this Energy Action Plan.

Centennial's Energy Action Team

The planning team was formed from a varied group of city staff, local and regional organizations, local businesses, and committed community members:

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Executive Summary

This Energy Action Plan outlines tangible steps for the City of Centennial to move the community toward its energy efficiency and resiliency goals. Xcel Energy Partners in Energy facilitated a series of workshops with the Energy Action Planning Team (planning team), starting in the summer of 2018, to develop this plan. The planning team included representatives from Centennial's municipal operations, libraries, park and recreation district, Colorado State University Arapahoe County Extension, and the community.

Our Vision

The City of Centennial will create a resilient future for its residents and businesses through improved energy efficiency, enhanced connectivity, education, and cost savings.

Our Goals

The City of Centennial aspires to achieve the following energy goals in 2019-2020:

- Connect with 20,000 residents to double participation in Xcel Energy programs in one year.
- Connect with 15 percent of large businesses and engage 10 percent in Xcel Energy programs in one year.
- Connect with 20 percent of small and medium businesses and engage 10 percent in Xcel Energy programs in one year.
- Engage 25 percent of new buildings and/or development construction and major renovations in Energy Efficient Buildings (EEB) or Energy Design Assistance (EDA) program.
- Conduct 10 Onsite Energy Audits or Building Tune-Ups and 5 associated projects at community facilities.

How Will We Get There?

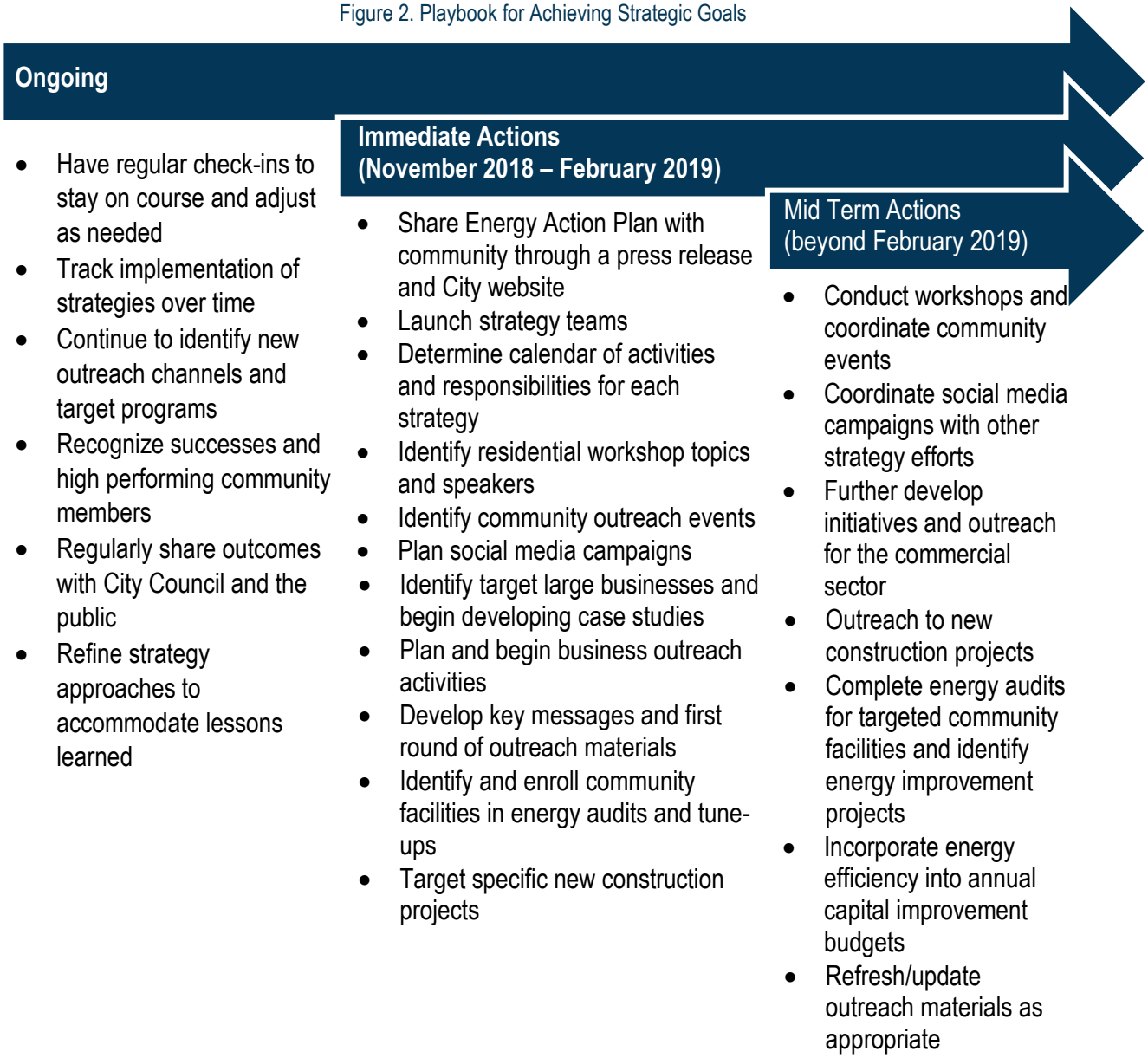
To move toward its goals, the City of Centennial's planning team identified strategic initiatives and targets for three important focus areas. These focus areas and strategic initiatives are the working elements of the Energy Action Plan and will generate concrete actions and impacts. The focus areas are shown in Figure 1.

Figure 1. Focus Areas for City of Centennial's Energy Action Plan

Residential	**Strategies:** • Educational Workshops and Outreach • Community Event Coordination • Social Media Outreach
Commercial & Industrial	**Strategies:** • Targeted Large Businesses Outreach • Targeted Small and Medium Business Outreach • New Construction Outreach
Community Facilities	**Strategies:** • Facility Audits and Improvements

The playbook outlining key actions and timing, as well as what follows the Partners in Energy engagement period is summarized in Figure 2.

Figure 2. Playbook for Achieving Strategic Goals



Introduction

This Energy Action Plan outlines tangible steps for the City of Centennial to move the community towards its energy efficiency and resiliency goals. The community's main energy priorities are outlined below:

- Identify and implement opportunities to drive energy savings for residents and businesses that will result in cost savings on energy bills.
- Identify and implement opportunities for municipal and other community facilities to lead by example.

This plan provides documentation of the Xcel Energy Partners in Energy planning process, an overview of the City of Centennial's demographics, the community's baseline energy use and profile, a summary of the priority focus areas identified, and the near-term actions required to implement the plan. The plan was developed over the course of four, 2.5-hour workshops held in the summer and fall of 2018.

Xcel Energy Partners in Energy

Xcel Energy is one of two electric utilities and the primary gas utility serving the City of Centennial. In the summer of 2014, Xcel Energy launched Partners in Energy to support communities, such as the City of Centennial, in developing and implementing Energy Action Plans that supplement existing sustainability plans, strategies, and tools. The content of this plan is derived from a series of planning workshops held in the community with a planning team committed to representing local energy priorities, following the process provided by Partners in Energy (Figure 3), and implementing plan strategies.

Partners in Energy will work with the City of Centennial to coordinate support for implementing the plan and will develop a Memorandum of Understanding that outlines specific support Xcel Energy will provide to help the City of Centennial deploy its strategies and achieve its goals. Typical resources provided to communities during implementation are summarized in Figure 4.

Figure 3. Partners in Energy Process for Success

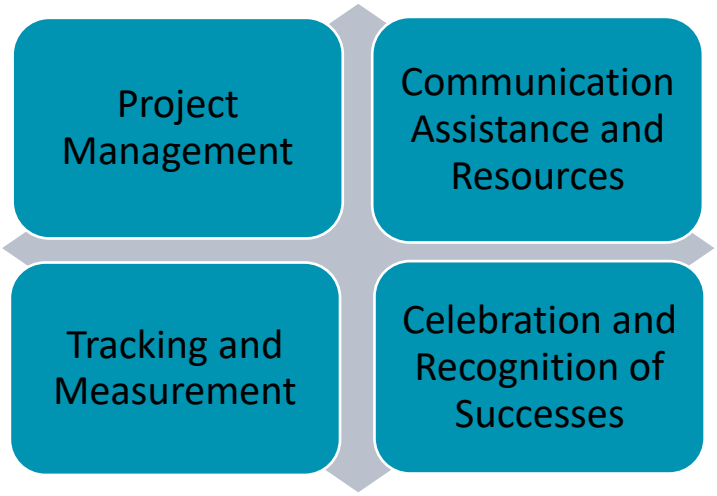


Figure 4. Resources from Xcel Energy for Implementation

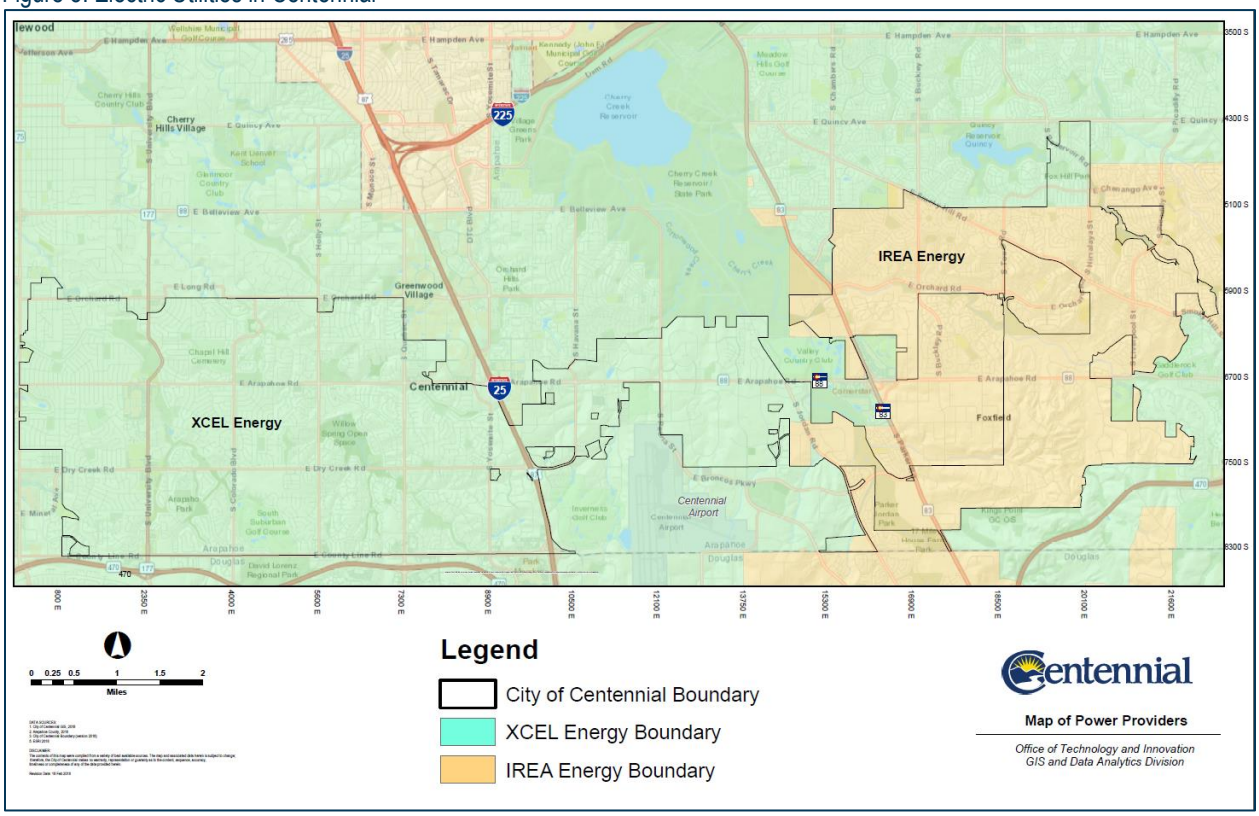
Who Are We? – Community Background

Centennial was founded in 2001, when a group of motivated residents decided to incorporate as a city, setting the foundation for taking action and making progress as the City of Centennial. Since incorporating, the city has grown by nearly 10 percent in population, attracted many businesses to the area, and expects to see continued growth.

Energy Utilities

Xcel Energy provides natural gas service to the entire Centennial community. In addition, Xcel Energy provides electricity to the western portion of the community. Intermountain Rural Electric Association (IREA) is a member-owned electric distribution cooperative that provides service to the eastern side of the Centennial community. See Figure 5 for a map of each utility's electric service territory. This Energy Action Plan focuses on sharing energy efficiency and renewable energy information with the community regardless of service territory; however, specific goals and targets focus on participation in Xcel Energy's programs and will be coordinated with IREA programs as applicable.

Figure 5. Electric Utilities in Centennial



Geography, Population, and Demographics

The City of Centennial is located in the southern portion of the Denver-metro area and spans 29.69 square miles in Arapahoe County. The majority of the city resides on the west side of Interstate 25 and north of Highway C-470, with the remainder located east of Interstate 25 and north of Highway E-470. Cities surrounding Centennial are Greenwood Village, Aurora, and Denver to the north; Lone Tree and Highlands Ranch to the south; Littleton to the west. There are four City Council districts in the City of Centennial with eight City Council members comprised of two representatives from each district (Figure 6).[1] The Mayor represents the community at large.

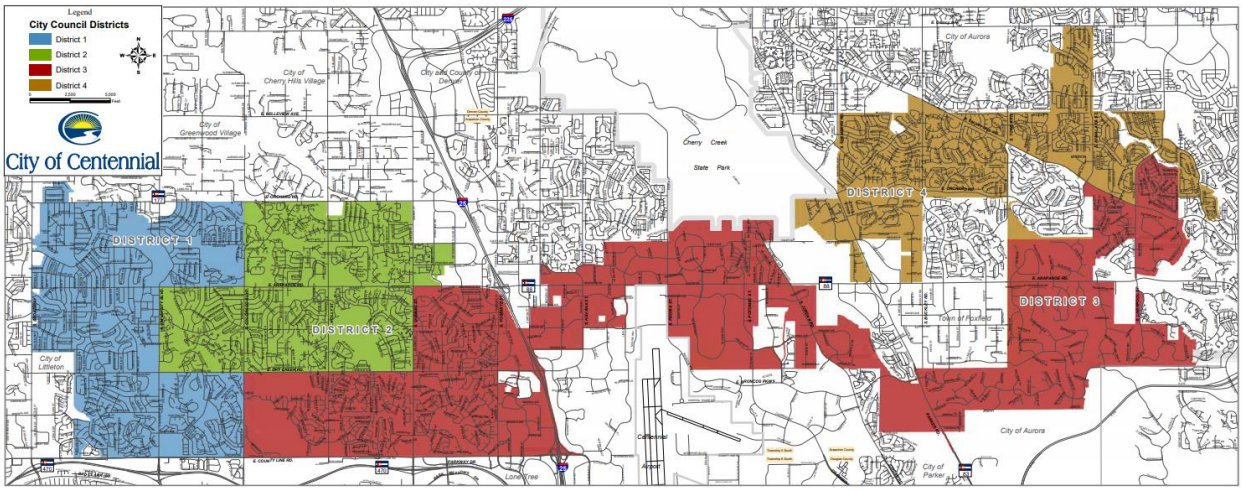


Figure 6. City of Centennial Council Districts

According to the Colorado State Demography Office, Centennial is the 10th most populous city in Colorado with an estimated population of 110,250 in 2017.[2] Centennial's population has grown by nearly 10 percent in the last seven years and is expected to continue growing over the next decade.[3] As the population grows, it is expected that the energy use would also grow. The median age in Centennial is 42.1[4], higher than the national median of 37.7.[5] More than 18 percent of residents are over the age of 62, indicating an aging population that is a continued focus for Centennial in their community planning efforts.

The majority of Centennial's population identifies as white, at 81.5 percent, with 8 percent identifying as Hispanic or Latino, 5 percent as Asian, and 2.4 percent as black/African American.[4] Racial diversity has increased slightly over the last decade as the population has grown.

The median household income in Centennial in 2016 was $96,634,[4] considerably higher than state average of $62,520.[5] Centennial households may be better able to invest in their homes and in energy efficiency upgrades because of this.

[1] Official Council District Map of Centennial, CO. http://www.centennialco.gov/uploads/files/Maps/Officialpercent20Councilpercent20Districtpercent20Map.pdf

[2] Municipalities Ranked by population (July 2016). Colorado State Demographers Office. https://www.colorado-demographics.com/cities_by_population.

[3] U.S. Census Bureau, Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2017. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF.

[4] 2017 Centennial Community Profile. http://www.centennialco.gov/uploads/files/2017%20Community%20Profile_updated%204_26.pdf.

[5] U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml.

Housing

As of 2017, Centennial had an estimated total of 41,324 housing units.[6] Single family homes account for 86.2 percent of all units, and the majority of these (75.9 percent) were built between 1970 and 1999,[7] showing an aging housing stock and homes that are likely due for efficiency and appliance upgrades. Most of these units (81.7 percent) are owner occupied, which allows for increased investment and engagement in energy efficiency. Table 1 shows the number of housing units built by year.

Of the single-family homes, 80.1 percent use utility gas for heating, and 18.1 percent use electricity.[7] Coupled with the age of the housing stock, residents in these homes could likely realize significant savings by improving the efficiency of older heating units.

Table 1. Age of Housing Stock in Centennial

Year Built	Number of Units
Total (2017)	41,324
2010 or later	421
2000-2009	2,514
1990-1999	7,902
1980-1989	11,827
1970-1979	11,672
1960-1969	5,364
1950-1959	1,331
1949 or earlier	292

Source: US Census Bureau. 2012-2016 American Community Survey 5-Year Estimates

Business and Economy

According to the United States Census American Community Survey 2012-2016, Centennial employed 56,817 people, a number that is just over half its population. The unemployment rate is low, at 3.2 percent.[7] The top five industries were: professional and business services (24 percent); finance, insurance and real estate (16 percent); education and healthcare (10 percent); retail trade (10 percent); and leisure and hospitality (9 percent)[6], with over 4,700 registered businesses.[6] As Centennial has grown, the City government has implemented many innovative practices, such as city-wide fiber infrastructure and improved development codes, to promote business growth. Business growth is expected to continue, as Centennial attracts more technology companies. Many of these businesses are small to medium sized and could see significant benefits to their bottom line with improved energy efficiency.

The Case for a Community Energy Action Plan

An Energy Action Plan can assist Centennial in supporting the growing senior population, families, and businesses with energy efficiency measures, programs, and education that can lead to energy and cost savings, and increased community resiliency. This plan can also support Centennial's NEXT community planning process, which will provide a roadmap for future development in the city from now to 2030.

Together, these plans can enhance the quality of life and provide economic vitality for the businesses and residents of the City of Centennial.

[6] 2017 Centennial Community Profile. http://www.centennialco.gov/uploads/files/2017%20Community%20Profile_updated%204_26.pdf

[7] U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

Where Are We Now?

Baseline Energy Analysis

An introductory step in the Partners in Energy planning process (see Figure 3) is to develop a community energy profile. The Partners in Energy team analyzed historical energy data in Centennial by source (electricity, natural gas) and sector (residential, commercial and industrial, municipal). Three years of data (2015-2017) were used for the analysis, and 2017 was established as the baseline year for this plan. Only Xcel Energy data were used in the electricity analysis; however, it is important to note that a portion of the electric service in Centennial is provided by Intermountain Rural Electric Association.

Community Energy Use and Trending

Based on aggregated utility data provided by Xcel Energy, in 2017 Centennial had 42,921 residential, commercial and industrial, and municipal premises (Figure 7). A premise is a unique identifier for the location of electricity or natural gas service. In most cases, it is a facility location. This total includes premises served by electricity, natural gas, or both. More than 90 percent of the premises are residential (38,783 premises); they account for 54 percent of the total energy consumption in the community in 2017 (Figure 8).

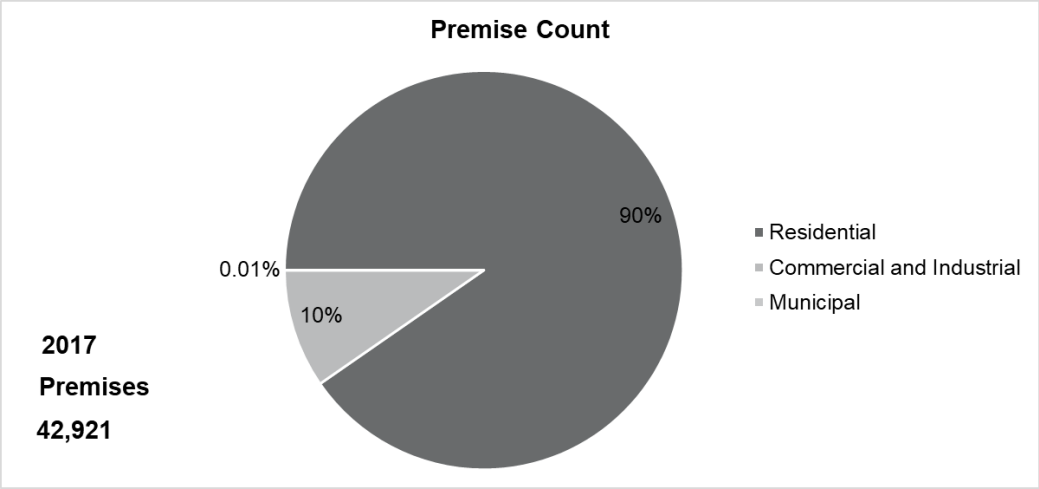


Figure 7. Centennial Premises

While the number of commercial and industrial and municipal premises is small compared to the residential sector, these sectors account for 46 percent of the total energy use in the community (Figure 8) and 58 percent of the overall energy costs (Figure 9).

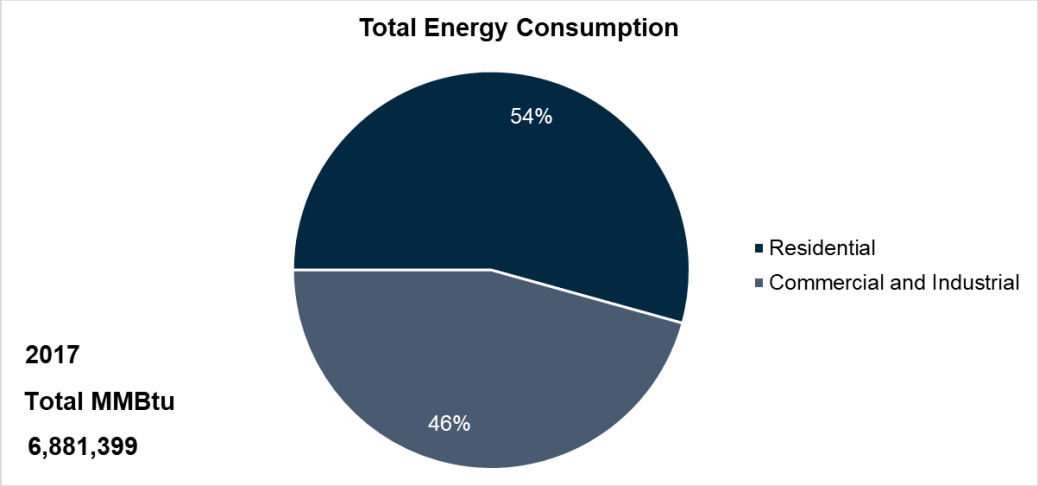


Figure 8. Total Energy Consumption

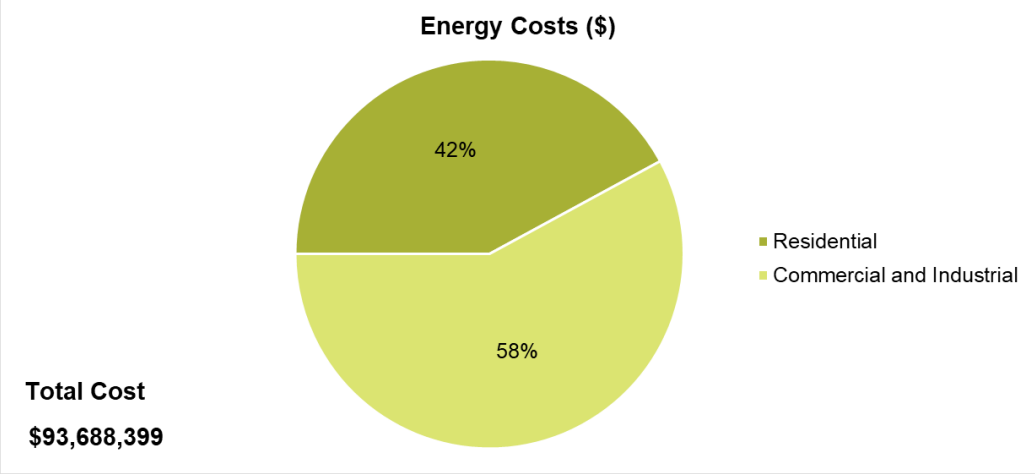


Figure 9. Overall Energy Costs

The bulk of these energy costs are spent on electricity across all sectors. Figure 10 shows the cost per premise in 2017 for electricity and natural gas. Although municipal facilities make up a small portion of the total energy costs, they have the highest annual cost per premise, presenting opportunities for savings in this sector.

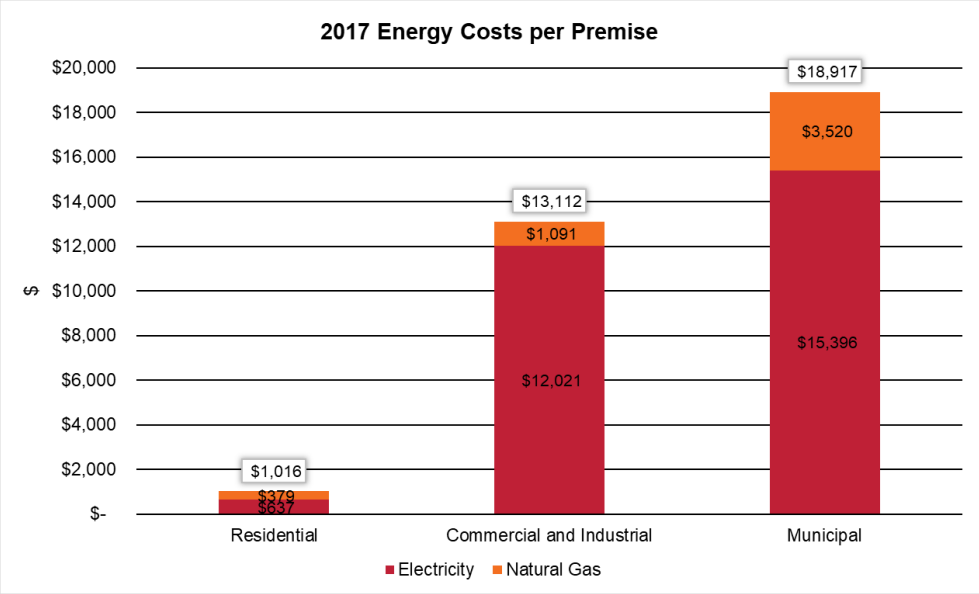


Figure 10. Energy Cost Per Premise

In total, approximately 821 million kilowatt hours (kWh) of electricity and 40.8 million therms of natural gas were consumed by residents and businesses in the City of Centennial in 2017. The commercial and industrial sector consumed the majority of the electricity, accounting for more than 585 million kWh (71 percent), while the residential sector consumed 235 million kWh (29 percent), and the municipal sector consumed 1 million kWh (0.08 percent) (Figure 11).

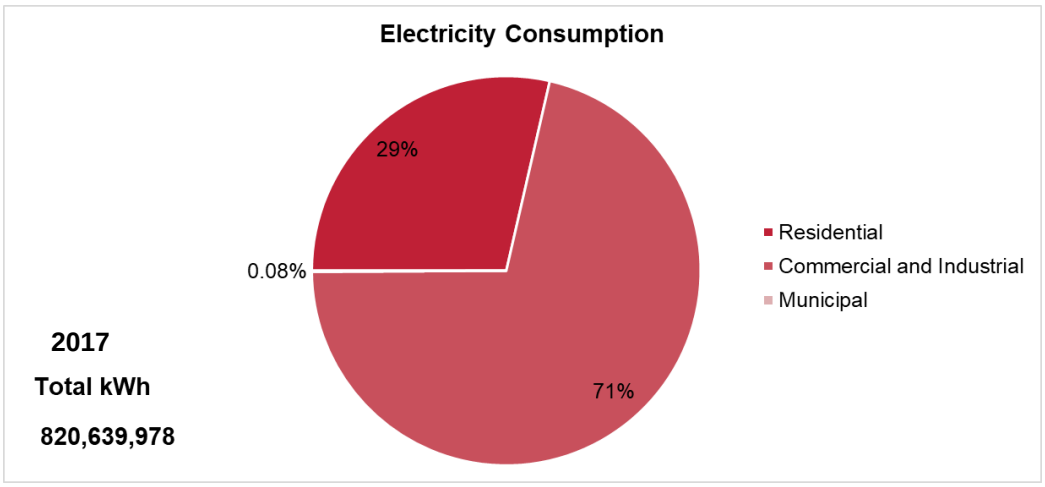


Figure 11. Electricity Consumption by Sector

Natural gas was primarily consumed by the residential sector, accounting for 29.3 million therms (72 percent), while the commercial and industrial sector consumed 11.5 million therms (28 percent), and the municipal sector consumed 0.02 million therms (0.06 percent) (Figure 12).

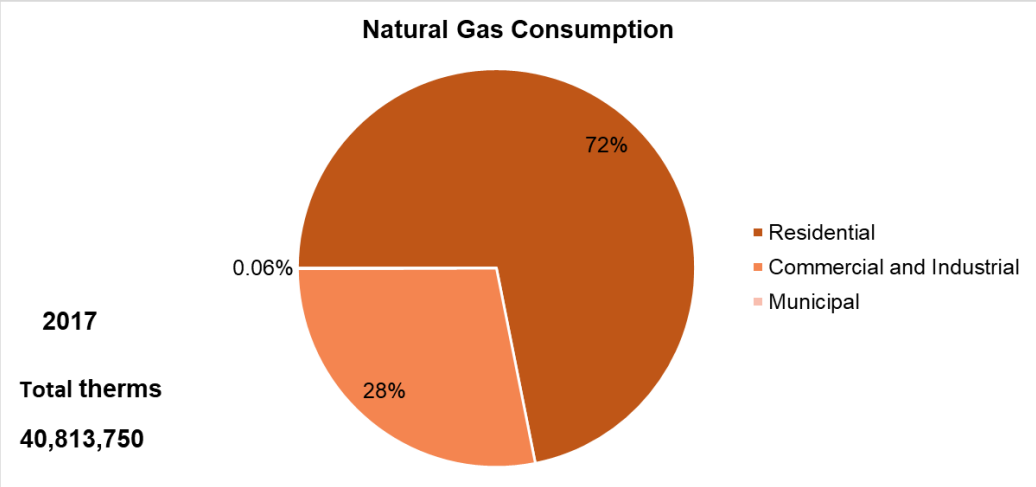


Figure 12. Natural Gas Consumption by Sector

Electricity use in Centennial in the residential and commercial and industrial sectors has seen a modest decrease of 3 percent from 2015 to 2017 (Figure 11). Over the same period, natural gas in the residential and commercial and industrial sectors has declined by 2.4 percent (Figure 12). These declines could be attributed to energy efficiency but could also be the result of weather conditions, as the number of both heating degree days (HDD) and cooling degree days (CDD) also decreased over this time.

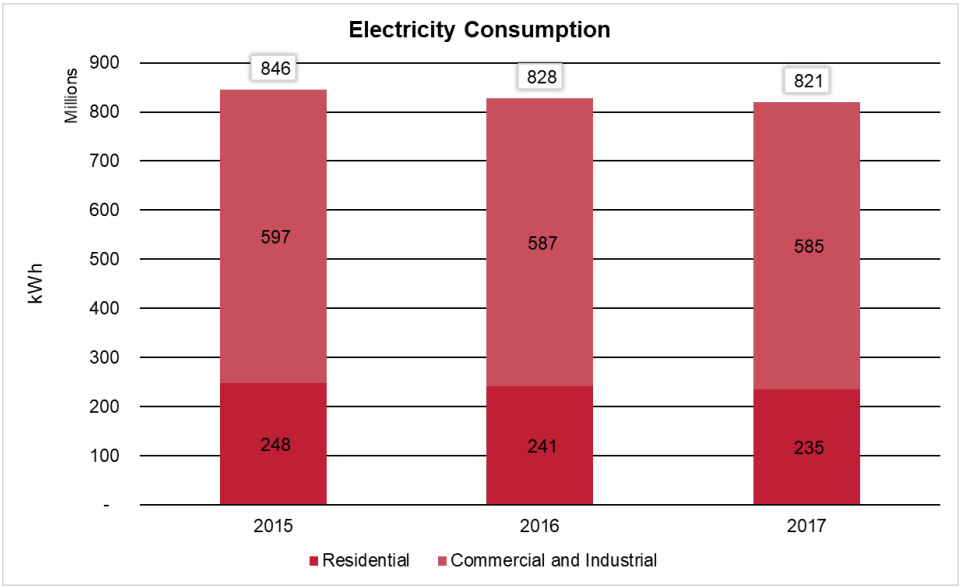


Figure 13. Commercial and Residential Electricity Consumption

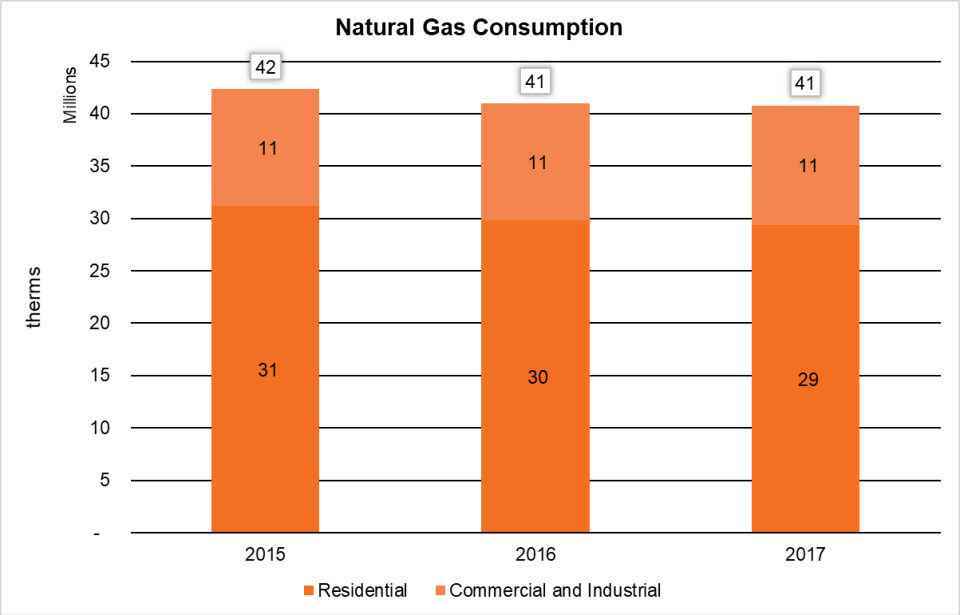


Figure 14. Commercial and Residential Natural Gas Consumption

The municipal sector saw an increase in electricity consumption of 31 percent from 2015-2017 (Figure 16), however there are only four premises that are included in this analysis, so small consumption changes may have large implications on the overall percentage. During the same time frame, there was an overall decrease in natural gas use of 8.8 percent, however this was preceded by an increase from 2015 to 2016 of 13 percent (Figure 16). It is difficult to draw conclusions from the electricity and natural gas trends due to the 2016 City Hall renovation, which impacted energy usage during the renovation period and changed the number of occupants and use of the building space after the renovation.

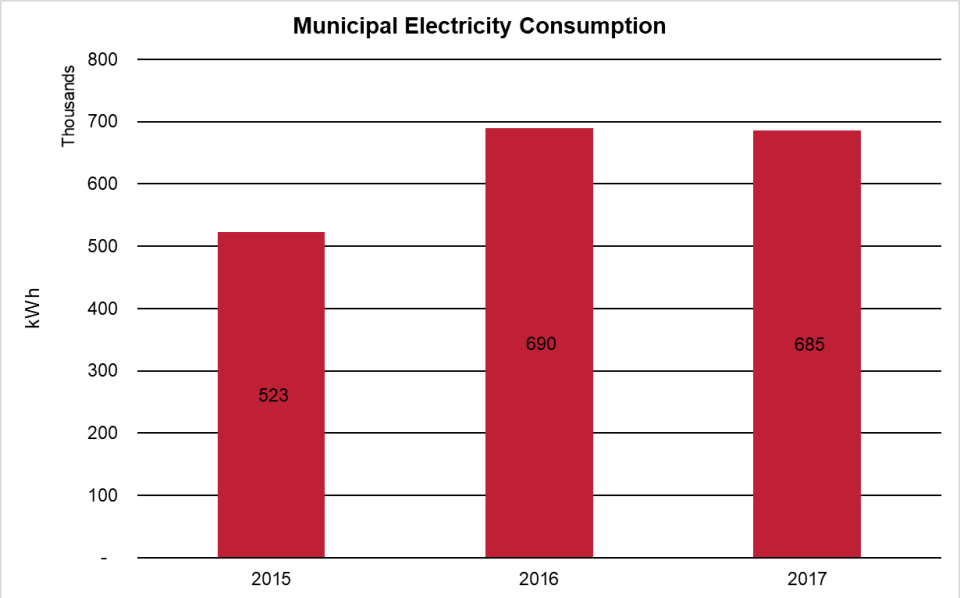


Figure 15. Municipal Facilities Electricity Consumption

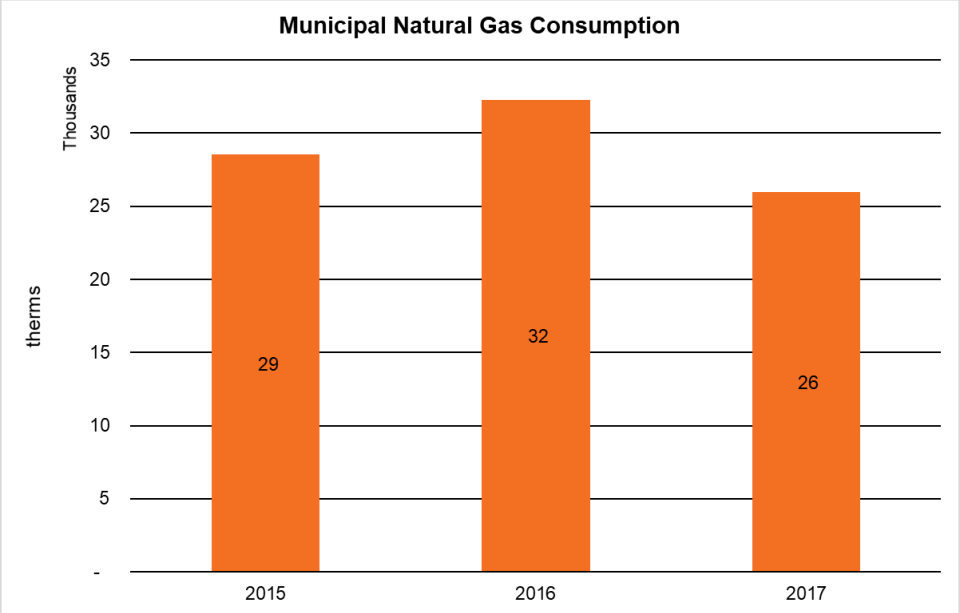


Figure 16. Municipal Facilities Natural Gas Consumption

Efficiency Program Participation

Part of the community energy profile includes Xcel Energy's historic demand-side-management (DSM) program participation and associated energy savings for the residents and businesses of Centennial. These data provide a snapshot of what types of programs customers are using and to what extent. The data also show opportunities for greater participation in the available programs and the need for increased education and awareness.

In 2017, about 7 percent of eligible residents participated in Xcel Energy DSM programs (see Appendix 2: Xcel Energy Program Offerings), saving over 1 million kWh and 63,900 therms. This equates to an average

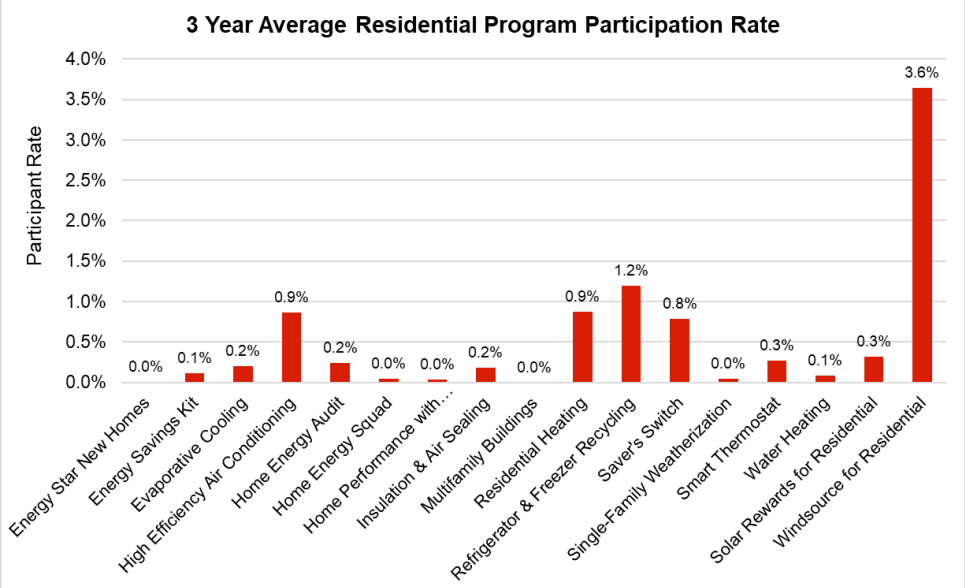


Figure 17. Residential Program Participation Rates

annual energy cost savings of $45 per participating residence, in addition to rebates and other financial incentives associated with program participation. Figure 17 shows the average residential program participation rate from 2015 through 2017.

In 2017, more than 8 percent of businesses (including City facilities) participated in Xcel Energy DSM programs, saving over 8.5 million kWh and 9,500 therms. This equates to an average annual energy cost savings of about $2,291 per participating business, in addition to rebates and other financial incentives associated with program participation. Figure 18 shows the average business program participation rate from 2015 through 2017.

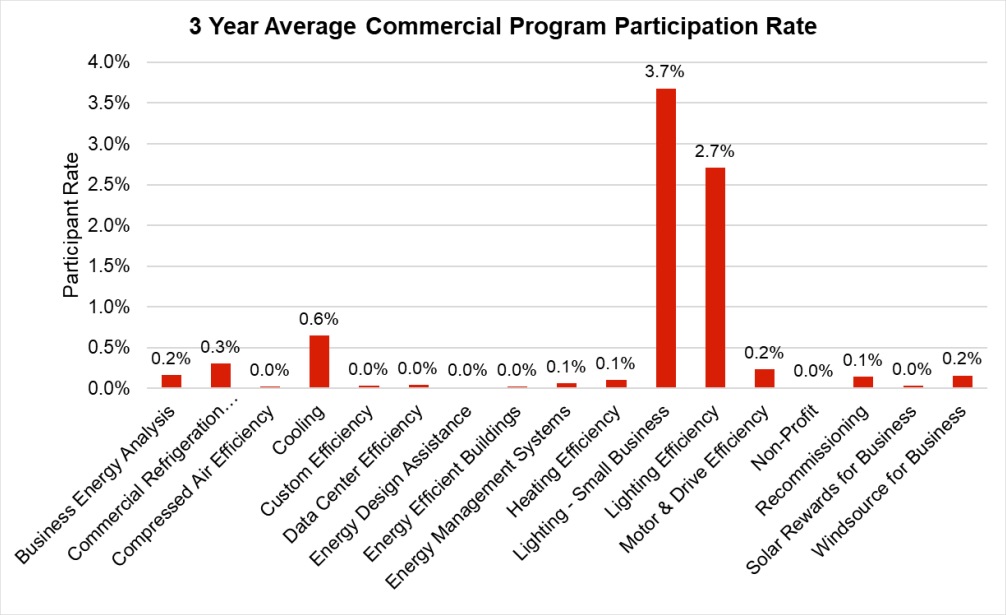


Figure 18. Commercial Program Participation Rates

Existing Energy Practices

Table 2. Community Energy Initiatives

City of Centennial
• Adopted several energy-related codes and standards including the Land Development Code and Municipal Code (chapter 18), and the IECC 2015 building energy code. • Civic Center building remodel included new energy-efficient lighting, window film, and HVAC upgrades. • Public Works facility remodel included LED lighting (including the parking lot). • Lighting at the Centennial Center Park is set on a timer and was recently upgraded to LEDs. The City has explored options for solar and other alternative energy sources.
Arapahoe Libraries
• LED lighting in various facilities • Solar at Castlewood Library
South Suburban Parks and Recreation District
• Energy performance contract to perform energy upgrades throughout District facilities
Arapahoe County Extension
• Conducts energy efficiency and renewable energy workshops across the state. • Provides rural energy assessments. • Facilitates local government energy goal setting and attainment strategies.

Local Outreach and Communication Channels

Engaging the community is critical to reaching the Energy Action Plan goals. Table 3 summarizes some of the ways residents and businesses currently receive information. These communication channels will be helpful during implementation efforts.

Table 3. Local Outreach

Local Outreach Channels
Digital Communications
• City of Centennial Facebook • @CentennialGov Twitter • CentennialGov Instagram • Targeted emails from Xcel Energy • Nextdoor • Partner websites • Press Releases • City of Centennial Events webpage • City of Centennial e-newsletter • Centennial Connection newsletter • South Metro Denver Chamber of Commerce newsletter
Events
• Centennial Holiday Celebration • Brew-n-Que • Centennial Under the Stars • Car Show & Concert • Summer Kickoff • And others TBD
Community Spaces for Collateral Distribution
• Centennial Civic Center • Libraries • Family Sports Center • Goodson Recreation Center • Trails Recreation Center • Retirement Communities • South Suburban Parks and Recreation Facilities • Arapahoe Parks and Recreation District Facilities

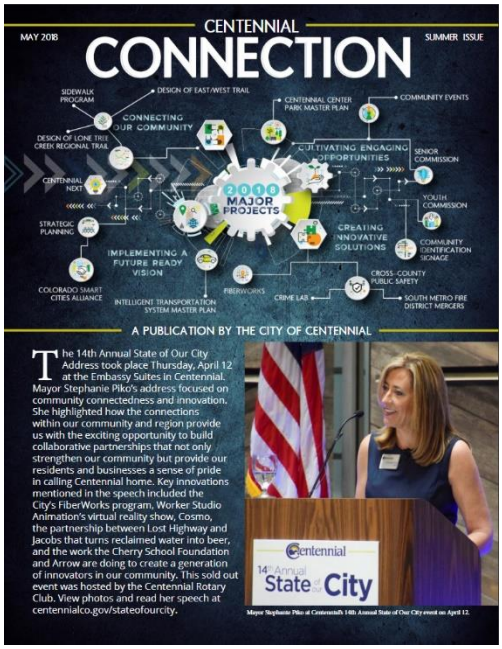


Figure 19. Centennial Connection Newsletter

Where Do We Want to Go?

Our Energy Vision

During the first planning workshop, team members worked together to craft an energy vision statement that expresses the Centennial community's energy intentions and values. Figure 20 shows a word cloud that was developed based on the planning team's input, with larger words representing concepts and values that were identified the most frequently and were therefore of greatest interest.

Figure 20. Energy Vision Word Cloud

From this activity, the planning team developed a vision for this Energy Action Plan:

> ***The City of Centennial will create a resilient future for its residents and businesses through improved energy efficiency, enhanced connectivity, education, and cost savings.***

The Centennial planning team chose to realize this vision by focusing on three key areas based on the needs of the community: residential, commercial and industrial, and community facilities. Common themes to all focus areas are outreach and education, energy efficiency, renewable energy, and new technologies.

How will We Get There?

Centennial will work to achieve its energy vision by establishing goals and implementing strategies across the following three focus areas.

Focus Area 1: Residential

The residential sector in Centennial accounts for 90 percent of Xcel Energy premises, 54 percent of energy consumption, and 72 percent of natural gas consumption, as discussed in the Baseline Energy Analysis section of this document. This customer group represents a significant opportunity to reduce energy consumption and save money in Centennial by impacting how residents view and consume energy. The aging housing stock in Centennial also represents a significant opportunity, as many homes are likely to realize savings through efficiency upgrades. Further, during the baseline year of 2017, 7 percent of residential premises participated in efficiency and renewable energy programs, representing considerable room for increased participation and engagement.

Historical Program Participation

Figure 21 shows participation in each of Xcel Energy's residential efficiency and renewable programs over the last three years. In 2017, there were 2,762 participants, representing 7 percent of the residential premises in Centennial. This participation resulted in a 0.5 percent energy reduction across the community. The planning team used this information to inform the residential focus area goals, primarily focused on increasing participation rates and overall community energy savings.

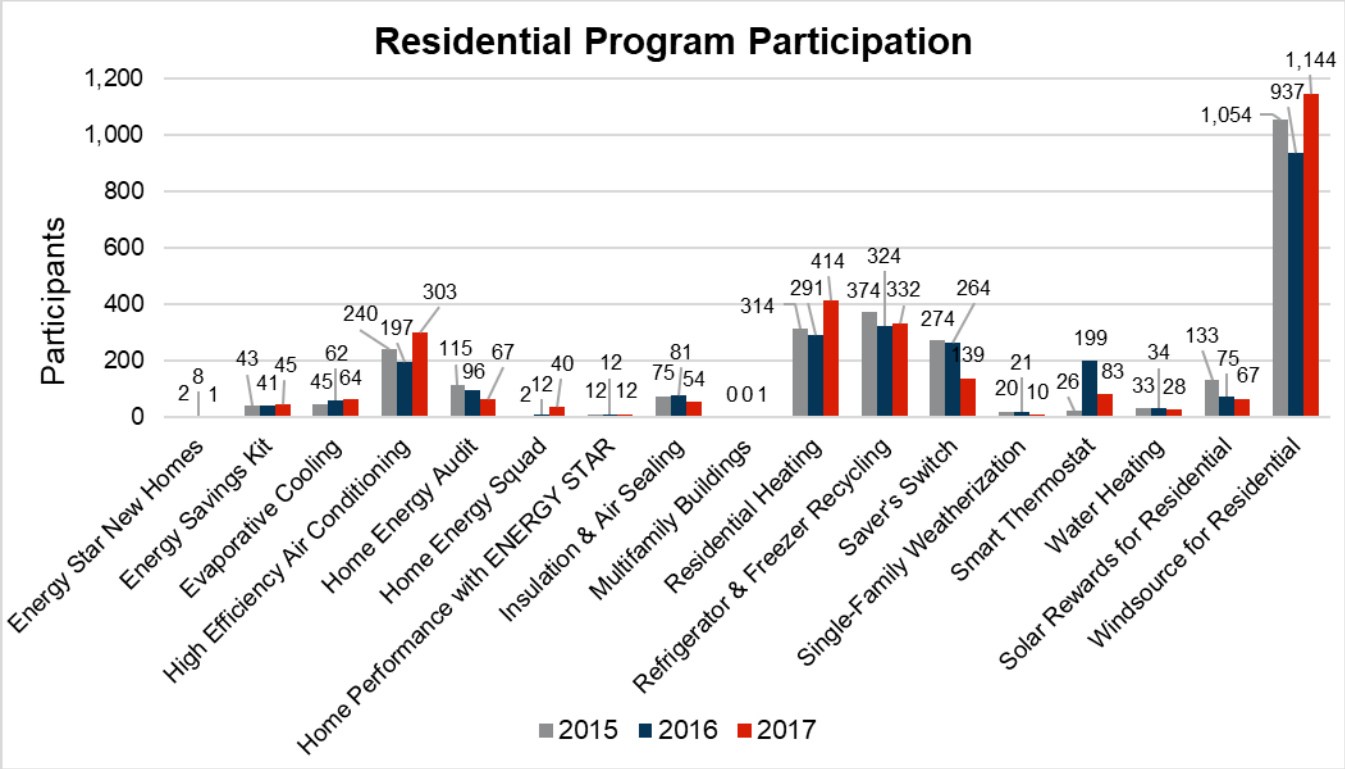


Figure 21. Three Year Residential Program Participation

Goal

Connect with 20,000 residents to double participation in Xcel Energy programs in one year.

Strategies

The planning team chose to focus on increasing awareness of energy efficiency and renewable energy opportunities, including increasing participation in Xcel Energy programs. To achieve the residential goal, the planning team will focus on educational workshops, event coordination, and social media campaigns as strategies, as summarized in the tables below.

Table 4. Residential Focus Area Strategy 1

Strategy 1: Educational Workshops

Description

This strategy primarily focuses on hosting various educational workshops to inform community members about energy efficiency and renewable energy opportunities for their homes. The workshops will provide opportunities for participants to interact with topic experts, learn about different program and rebate opportunities, and share their stories. Messages will focus on ways for participants to save money through energy efficiency improvements.

Targets

- Hold one educational workshop per quarter during the implementation period (2019 and early 2020) in the fall, winter, and spring
- Contact at least 12,000 people about workshop opportunities (2,000 each workshop)
- Enroll at least 20 participants at each workshop (120 total)

Scope

- Identify workshop topics and speakers. Potential topics include:
  - Electric vehicles
  - Energy efficiency basics for your home (potentially target first time homeowners and seniors/those who are aging and want to stay in their homes)
  - Renewable energy
  - Selecting energy efficient equipment for your home
- Determine dates and venues
- Coordinate on workshop logistics and co-presenters
  - Arapahoe County Weatherization Division - information on home weatherization and energy efficiency support for low-income households
  - CLEAResult – send Home Energy Squad technicians to workshops
  - IREA - information about opportunities for customers in their service territory
- Market workshops
  - Leverage City outreach channels, event calendars
  - Advertise through HOAs and other community groups
- Deliver workshops

Responsible Parties

- Arapahoe County Extension

    - Help with marketing workshops to their distribution lists
    - Lead workshop delivery for some topics (EVs, Renewable Energy, Energy Efficiency)
- Xcel Energy and Partners in Energy
    - Lead workshop planning
    - Support marketing
    - Support workshop delivery
- City of Centennial
    - Help spread the word
    - Help identify or provide venue
- Energy Action Team
    - Help spread the word about workshops through everyone's channels (e.g., Senior Commission, NextDoor)
    - Provide personal connections and stories at workshops
- CLEAResult, Arapahoe County Weatherization Division, IREA
    - Support workshop development and delivery

Timeline

- Begin workshop planning in Fall 2018 and begin outreach
- Workshop 1 in late Fall 2018 (topic: electric vehicles)
- Workshop 2 in Winter 2019 (preliminary topic: energy efficiency basics for seniors)
- Workshop 3 in Spring 2019 (preliminary topic: renewable energy opportunities for your home)
- Workshop 4 in Fall 2019 (preliminary topic: energy efficiency basics for new homeowners)
- Workshop 5 in Winter 2020 (preliminary topic: selecting energy efficient home equipment)
- Workshop 6 in Spring 2020 (topic TBD)

Resources

- Leverage the Universal Design Demonstration Home at Southglenn Library for a senior-focused workshop
- Have LED bulbs or raffle items at workshops as an incentive to participate
- Offer Home Energy Squad demonstrations and testimonials
- Each workshop will need a PowerPoint, handouts, and refreshments

Outreach Channels

- City Newsletter (mailed to all households)
- Social media (City, Xcel Energy, Arapahoe County Extension)
- City Council district meetings
- Personal connections
- Homeowners Associations
- Churches
- City Commissions (e.g., Senior Commission, Youth Commission)

Measurement

- Number of people contacted about event

- Attendance at events
- Enrollment for programs at/following workshop events

Table 5. Residential Focus Area Strategy 2

Strategy 2: Community Event Coordination
Description
This strategy is designed to leverage existing City of Centennial events to provide information about energy efficiency and renewable energy resources that are available to community members. Outreach messages will emphasize cost-savings to participants, and easy-to implement solutions. Volunteers will table at events to pass out information, answer questions, and encourage participants to learn more about energy efficiency opportunities.
Targets
• Attend at least 4 major community events during the 18-month implementation period • Connect with at least 50 residents at each event
Scope

• Determine calendar of events and staffing needs. Potential events include:
  ○ Centennial Holiday Celebration (i.e., promote discounted LED holiday lights and Home Energy Squad visits)
  ○ Picnic in the Park
  ○ Brew-n-Que
  ○ Centennial Under the Stars
  ○ Car Show & Concert
  ○ Chalk Art Festival
  ○ Service Club Meetings
  ○ National Night Out
• Coordinate Xcel Energy and City messaging and program information with other energy-related opportunities:
  ○ Arapahoe County Weatherization Division - information on home weatherization and energy efficiency support for low-income households
  ○ IREA - information about opportunities for customers in their service territory
• Develop event collateral materials and tabling details
• Train volunteers
• Attend events

Responsible Parties

• City of Centennial
  ○ Share Partners in Energy information at all planned events
  ○ Help identify which events might be most beneficial to have more of a formal/increased presence
• Xcel Energy
  ○ Lead material development
  ○ Support outreach at a targeted number of activities
  ○ Coordinate list of activities with company sponsorship team

- Arapahoe County Extension
    - Lead or support tabling at high-priority events
- Senior & Youth Commissions
    - Share Partners in Energy information at all planned events
- Arapahoe County Weatherization Division and IREA
    - Support collateral development and distribution

Timeline

- Winter 2018: Consider attending Holiday Celebration
- Winter/Spring 2019: Develop event materials and complete volunteer training
- Spring 2019: Apply for summer event participation
- Summer 2019: Attend events
    - June: Summer Kickoff Concert, Picnic in the Park
    - July: Brew-n-Que, Picnic in the Park
    - August: Centennial Under the Stars, National Night Out
    - September: Car show & Concert, Centennial Chalk Art Festival
- Winter 2019: Holiday Celebration

Resources

- Volunteer training /speaking points (e.g., for members of the Senior Commission, Youth Commission, City Communications staff)
- Tabling materials (e.g., tablecloths, collateral flyers/brochures, LEDs or other giveaways, eye-catching display)

Outreach Channels

- Social media
- City Newsletter
- City Council district meetings

Measurement

- Number of contacts made
- Number of materials distributed
- Enrollment for programs at/following community events

Table 6. Residential Focus Area Strategy 3

Strategy 3: Social Media Awareness Campaign

Description

This strategy is designed to leverage existing City of Centennial and partner social media channels to share information about energy efficiency and renewable energy opportunities for community residents through a coordinated social media campaign.

Targets

- Deploy at least 3 coordinated and comprehensive social media campaigns during the 18-month implementation period
- Reach more than 9,000 social media users

Scope

- Determine the list of social media accounts and administrators (e.g., City, Arapahoe County Extension, etc.)
- Develop a library of video segments, testimonials, graphics, and information to use for campaigns
- Develop social media campaign details (e.g., delivery approach through a drip campaign)
- Launch campaign and track metrics

Responsible Parties

- City of Centennial
    - Lead campaign development, including video production
    - Deploy campaign on social media
- Xcel Energy
    - Support campaign development and deployment
    - Provide graphics and photos for campaign
- Arapahoe County Extension
    - Support campaign development and deployment
- Senior & Youth Commissions
    - Support campaign development and deployment
- Energy Action Team
    - Help spread the campaign on your social media profiles

Timeline

- Fall 2018: Begin development of campaign (including videos, photos, informational bits, etc.)
- Winter 2019: Finalize campaign logistics
- Spring 2019: Launch campaign 1
- Summer 2019: Plan campaign 2
- Fall 2019: Launch campaign 2
- Winter 2020: Plan campaign 3
- Spring 2020: Launch campaign 3

Resources

- Video segments (e.g., Home Energy Squad visit, Business Lighting visit, customer testimonials, etc.)
- Simple graphics and photos for posts

Measurement

- Social media reach (i.e., number of people who see content)
- Social media impressions (i.e., number of times content is displayed)

Focus Area 2: Commercial & Industrial

As identified in the Baseline Energy Analysis section of this document, commercial and industrial facilities in Xcel Energy's service territory represent 46 percent of energy consumption in Centennial, 71 percent of all electricity consumption, and 28 percent of natural gas consumption. There are over 4,000 Xcel Energy business premises in Centennial and relatively low participation in energy efficiency and renewable energy programs, representing a sizeable opportunity to provide energy and cost savings to all businesses. While this focus area presents challenges since businesses are busy and it can be difficult to connect with decision makers on energy matters, a simple and impactful targeted approach will allow this sector to benefit from and contribute to overall community energy efforts. This focus area includes strategies targeting large businesses, small and medium businesses, and new construction. Outreach messaging will focus on cost savings through energy efficiency improvements.

Historical Program Participation

In 2017, 337 commercial and industrial facilities in Centennial participated in Xcel Energy programs, representing about 8 percent of all businesses. This resulted in a 1.5 percent energy reduction across the community. The majority of participation is in the Small Business Lighting and Lighting Efficiency programs (Figure 22), presenting many opportunities for further engagement. The 2017 participation rates were used to inform the commercial and industrial focus area goals.

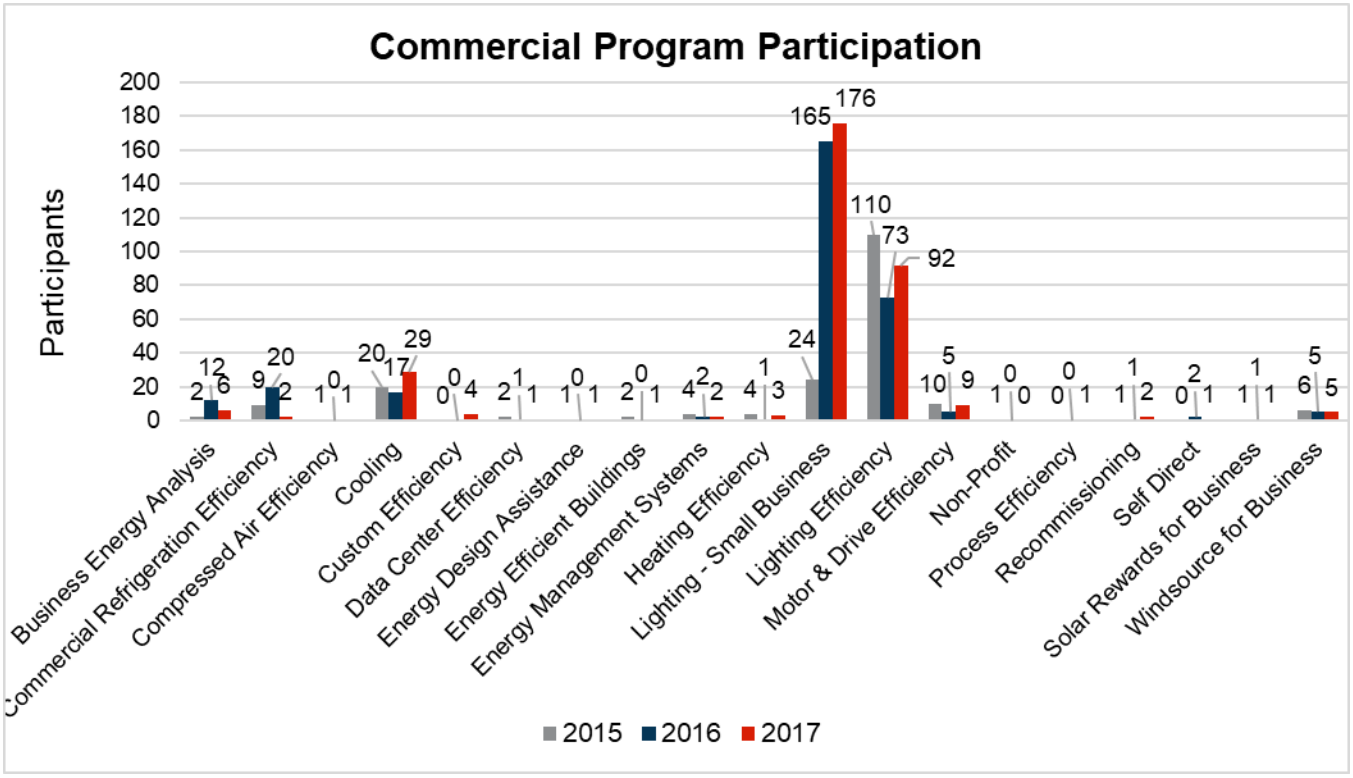


Figure 22. Three Year Commercial Program Participation

Goals

- ***Connect with 15 percent of large businesses and engage 10 percent in Xcel Energy programs in one year.***
- ***Connect with 20 percent of small and medium businesses and engage 10 percent in Xcel Energy programs in one year.***
- ***Engage 25 percent of new buildings and/or development construction and major renovations in Xcel Energy's Energy Efficient Buildings (EEB) or Energy Design Assistance (EDA) program.***

Strategies

The planning team chose to focus on increasing awareness of energy efficiency and renewable energy opportunities, including increasing participation in Xcel Energy programs. To achieve the commercial and industrial goals, the planning team will focus on initial marketing outreach with detailed outreach following action plans, as summarized in the tables below.

Table 7. Commercial and Industrial Focus Area Strategy 4

Strategy 4: Large Commercial Outreach
Description
This strategy will focus on engaging large businesses, defined by having a dedicated Xcel Energy account manager, in energy efficiency and renewable energy programs utilizing existing Centennial and Xcel Energy resources to create a specific action plan for outreach and education. Previous year participation in programs by large businesses was approximately 25.
Targets
• Connect with 15 percent of large businesses (60) served by Xcel Energy and engage 10 percent (40) in Xcel Energy programs in one year (an increase of approximately 15 from previous year participation)
Scope

• Include large commercial case studies tailored to specific markets in Centennial's monthly business newsletter
  ○ Identify and prioritize case studies to match large business types in Centennial
  ○ Develop a timeline for publishing case studies that fits within the business newsletter publication schedule
  ○ Work with Centennial's Economic Development Team to leverage other current business marketing efforts
• Create a detailed outreach action plan for large businesses
  ○ Work with Centennial's Economic Development Team, Community Development Team, and Xcel Energy Account Managers to create a detailed strategy by account/specific business that ties in any existing contacts, events and collateral
• Incorporate Commercial Property Assessed Clean Energy (CPACE)
  ○ Review CPACE requirements and coordinate messaging and participation mechanics with Arapahoe County

Responsible Parties

- Lead: Economic Development Team Member at the City of Centennial
- Other Responsible Parties:
    - Centennial's Economic Development Team
    - Centennial's Communications Team Members
    - Xcel Energy Account Managers
    - Xcel Energy Communications Staff
    - Energy Action Team

Timeline

- Winter 2018: Finalize case study publication plan and outreach action plan
- Spring/Summer 2019: Begin in person meetings with prioritized large businesses
- Fall 2019: Schedule regular check-ins with prioritized large businesses
- Winter 2019: Annual update of large business action plan

Resources

- Xcel Energy Large Business Case Studies
- List of Large Business Contacts
- Other Sector Specific Collateral as Needed

Outreach Channels

- City of Centennial monthly business newsletter
- Chamber of Commerce newsletter
- Social Media (see Strategy #3)

Measurement

- Increase in small and medium business program participation rate

Table 8. Commercial and Industrial Focus Area Strategy 5

Strategy 5: Small/Medium Business Outreach

Description

This strategy will focus on engaging small and medium businesses in energy efficiency and renewable energy programs utilizing existing Centennial, Xcel Energy, and Chamber resources to create a specific action plan for outreach and education. Previous year participation in programs by small and medium businesses was approximately 310.

Targets

- Connect with 20 percent of all small and medium businesses (760) and engage 10 percent (380) in Xcel Energy programs in one year (an increase of approximately 70 from previous year participation)

Scope

- Include small and medium commercial case studies tailored to specific markets in Centennial's monthly business newsletter
    - Identify and prioritize case studies to match small and medium business types in Centennial
    - Develop a timeline for publishing case studies that fits within the business newsletter publication schedule
    - Work with Centennial's Economic Development Team to leverage other current business marketing efforts
- Create a detailed outreach action plan for small and medium business sectors
    - Work with Centennial's Economic Development Team and Xcel Energy Program Managers to create a detailed strategy by specific sectors
    - Leverage Aurora and South Metro Denver Chamber of Commerce resources and events
    - Coordinate with the local Rotary Club to present at their meetings

Responsible Parties

- Lead: Economic Development Team Member at the City of Centennial
- Other Responsible Parties:
    - Centennial's Economic Development Team Members
    - Centennial's Communications Team Members
    - Xcel Energy Communications Staff
    - Energy Action Team

Timeline

- Winter 2018: Finalize case study publication plan and outreach action plan
- Spring/Summer/Fall 2019: Implement plan
- Winter 2019: Annual update of small and medium business action plan

Resources

- Xcel Energy Small/Medium Business Case Studies
- Other Sector Specific Collateral as Needed

Outreach Channels

- City of Centennial monthly business newsletter
- Chamber of Commerce newsletter
- Social Media (see Strategy #3)

Measurement

- Increase in small and medium business program participation rate

Table 9. Commercial and Industrial Focus Area Strategy 6

Strategy 6: New Construction

Description

This strategy focuses on high performing new construction and renovations in both businesses and community facilities.

Targets

One quarter of new buildings and major renovations to participate in Xcel Energy's Energy Efficient Buildings (EEB) or Energy Design Assistance (EDA) program (estimated at 5 per year).

Scope

- Create a detailed outreach action plan for new construction
    - Utilize city's existing connections with new development and building sites for face to face outreach and education on Energy Design Assistance (EDA) and Energy Efficient Buildings (EEB) programs.
    - Incorporate EDA and EEB consideration into the development review process and pre-application meeting
- Include information about energy efficiency and renewable energy opportunities with all new development and renovation applications and permits
- Provide EDA and EEB information and links on the City's Planning & Engineering webpage
- Lead by example with all new construction at community facilities utilizing EDA and EEB programs

Responsible Parties

- Lead: City of Centennial Community Development Staff
- Other Responsible Parties:
    - Centennial's Economic Development Team Members
    - Xcel Energy Communications Staff
    - Energy Action Team

Timeline

- Winter 2018: Finalize outreach action plan
- Spring/Summer/Fall 2019: In person meetings with prioritized developers
- Winter 2019: Annual update of new construction outreach action plan

Resources

- Brochures to incorporate into the development process
- Website content to include with the online development process

Outreach Channels

- Existing Centennial connections to identify potential participants
- Littleton Public Schools (if bond for new construction passes)

Measurement

- Increase in EDA and EEB program participation rate

Focus Area 3: Community Facilities

The City of Centennial already conserves energy by converting to LED lighting wherever feasible and incorporating energy efficiency into design of new facilities. Although community facilities represent less than 1 percent of energy use in Centennial, there is an opportunity to lead by example within city facilities, libraries, schools, and parks and recreation facilities. Further, energy savings in these facilities has an impact on all Centennial community members by enabling organizations to save taxpayer dollars.

Historical Program Participation

Community facilities program participation is included in commercial participation, as shown in Figure 22 There are about 35 total premises in the community facilities category, across seven organizations (City of Centennial, South Suburban Parks and Recreation District (SSPRD), Arapahoe Park and Recreation District (APRD), Arapahoe Libraries, Littleton Public School, Cherry Creek Schools, and Arapahoe County). Because there are fewer community facilities compared to commercial entities, the planning team chose to focus on engaging these community organizations when forming the focus area goal. This is also an opportunity for community organizations to lead by example.

Goal

Conduct 10 Onsite Energy Audits or Building Tune-Ups and 5 projects at community facilities.

Strategies

The planning team discussed various ways to engage facility managers and decision makers in energy efficiency improvement projects. The result is a strategy that targets exploring opportunities at facilities as a first objective, followed by implementing recommendations from energy audits and studies as a second.

Table 10. Community Facilities Focus Area Strategy 7

Strategy 7: Facility Energy Audits & Improvements
Description
This strategy focuses on increasing energy efficiency in community facilities by identifying opportunities for improvements through energy studies and audits and implementing the recommendations as feasible.
Targets
• Conduct 10 Onsite Energy Audits or Building Tune-Ups at community facilities (see Appendix 2: Xcel Energy Program Offerings for program details) • Implement 5 energy efficiency projects at community facilities • Send quarterly email newsletter to participating facility managers and other stakeholders
Scope
• Outreach and engagement with community organizations and their facility managers • Submit applications for energy audits and tune-ups through Xcel Energy programs at community facilities • Prioritize energy efficiency recommendations from audits and tune-ups and incorporate into capital plans for next budget cycle

- Engage facility managers through a quarterly newsletter to provide support, check-in and report out on goals, share lessons learned, and celebrate accomplishments

Responsible Parties

- Lead/organizer: City of Centennial
- Newsletter content and distribution
- Energy Action Team comprised of stakeholder representatives:
  - City of Centennial
  - South Suburban Parks and Recreation District
  - Arapahoe Libraries
  - Make connections with facility managers and other community organizations (school districts, Arapahoe Park and Recreation District, Arapahoe County, churches)
  - Support communication between Energy Action Team and their organization
- Implementation to be led by facility managers within each organization
  - Lead energy audits/tune-ups and implementation projects
- Xcel Energy and Partners in Energy
  - Support regular check-in calls with Energy Action Team
  - Provide audit/tune-up support and implementation coaching as needed

Timeline

- Audits and tune-ups to be scheduled within first 6 months of the implementation period (Spring/Summer 2019)
- Two months to review audit and tune-up reports and select recommendations to implement
- Recommendations from audits completed by early 2019 to be incorporated in the 2020 budget planning process starting in spring 2019
- Start preparing newsletter content at the beginning of each quarter and send during the last month of the quarter

Resources

- Xcel Energy Onsite Energy Audit ($125-$250) and Small Building Tune-up ($250-$500) programs
- Facility manager events and associations such as Building Owners and Managers Association (BOMA), Building Operators Association of Colorado (BOAC), and International Facility Management Association (IFMA)
- Email distribution list for all major community facility managers

Outreach Channels

- Personal networks of Energy Action Team members and facility managers
- Direct email to facility managers group

Measurement

- Number of audits/tune-ups
- Number of projects completed
- Number of newsletters sent

Summary: Energy Savings from Focus Areas and Strategies

To meet the City's energy savings goals outlined earlier, the following assumptions were included in the potential impact modeling conducted as part of the planning process:

- Maintain level of historical participation, energy savings, and cost savings from DSM and renewable program offerings
- Increase participation (above historical levels) and energy savings from DSM programs from the implemented strategies in this plan

Table 11 shows estimated savings during the plan implementation period, which will start in 2019 and end in 2020. The savings estimate is calculated based on the targeted Xcel Energy DSM Program participation levels outlined in each of the strategies of this plan (including historical participation). Electric and gas savings in each focus area reflect the community energy profile, with most electricity savings coming from commercial and industrial strategies and the majority of natural gas savings coming from residential strategies. The savings impact from Community Facilities is small due to the relatively few buildings that are part of this focus area. However, it is hoped that the impact will be amplified as community organizations lead by example and influence residents and businesses to participate in energy saving actions. The total impact represents a 40% increase in electricity savings and an 85% increase in natural gas savings, compared to 2017. These energy and cost savings are achieved through investment in energy efficient equipment and building upgrades supported by various rebates and programs available to support these investments. The investment cost will vary depending on the home or business and cost savings are estimated based on typical utility costs in Centennial.

Table 11. Estimated Energy Savings from Strategy Implementation

Summary of Savings	Participation	Total Electric Savings kWh	Total Natural Gas Savings therms	Total Annual Cost Savings
Focus Area 1: Residential	**5,300**	**2,170,000**	**122,500**	**$285,000**
Strategy 1: Educational Outreach	2,100	870,000	49,000	$114,000
Strategy 2: Community Event Coordination	2,100	870,000	49,000	$114,000
Strategy 3: Social Media Awareness Campaign	1,100	430,000	24,500	$57,000
Focus Area 2: Commercial & Industrial	**425**	**10,310,000**	**13,200**	**$914,000**
Strategy 4: Large Commercial Outreach	40	2,960,000	2,400	$258,000
Strategy 5: Small/Medium Business Outreach	380	6,500,000	4,800	$577,000
Strategy 6: New Construction	5	850,000	6,000	$79,000
Focus Area 3: Community Facilities	**15**	**80,000**	**0**	**$7,000**
Strategy 7: Facility Energy Audits & Improvements	15	80,000	0	$7,000
Total	**5,740**	**12,560,000**	**135,700**	**$1,206,000**

How Are We Going to Stay on Course?

The Energy Action Team has worked hard to develop ambitious and achievable goals that align with the energy vision. To achieve the targets and energy goals outlined in this plan, the City of Centennial and its partners identified in the strategies above will work to maintain consistent and clear communication among themselves and with the community at large. Each strategy will have sub-teams that will communicate regularly to work out the details of implementation, carry through on identified actions, and share progress and results. In the first months of implementation, the Energy Action Team will meet as a large group via online meetings to ensure effective group coordination and communication.

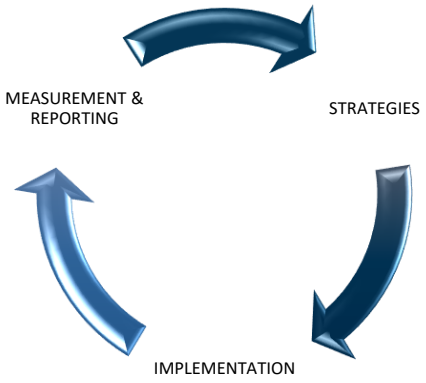


Figure 23. Actions and Tracking

Operational Actions and Tracking

Partners in Energy staff will track energy data for Centennial on a bi-annual basis and will report out on quantifiable progress. This tracking and reporting will include participation in Xcel Energy's programs and the associated savings. Each strategy team also will track supplemental quantitative and qualitative information about implementation, such as social media and website analytics, number of materials distributed, event dates, and estimated participants, etc.

Communication and Reporting

The City of Centennial and other community organizations have established communication channels as outlined previously in this plan. The Energy Action Team and Partners in Energy Team will coordinate the use of the various communication channels to support the strategies with outreach efforts, updates, progress, and successes

Changing Course: Corrective Action

Even though this Energy Action Plan is designed for greatest impact over the next 18 months, the residual effect and momentum gained by showcasing efficiency, raising awareness, and leveraging resources will have long-term positive implications. An effective energy plan is cyclical in nature (see Figure 23). In addition, the nature of implementation requires staging, flexibility, and course adjustments when necessary to be successful and to sustain progress. To ensure this plan remains on track, the Energy Action Team will review bi-annual tracking information and compare it against any supplemental strategy tracking metrics and information to assess whether the efforts appear to be making an impact.

To accommodate the fluid nature of action and implementation and learn from experience early in the process, the regularly scheduled team meetings as well as the bi-annual data check-ins will be a forum for agreeing on course adjustments or new approaches necessary to hit plan targets. Any adjustments will be documented and shared with the broader group and community as they occur.

During the implementation period, the best process for obtaining involvement from team members will be determined and lined up with appropriate cycles. These may include budget cycles, school calendars, start

of the heating season, etc. As these cycles and the appropriate review points in these cycles are incorporated, there may be different times of the year that specific elements may change, and at a minimum there should be at least one time every year for the major stakeholders to review progress, weigh in, and suggest changes to direction.

Sharing Progress

Strategies outlined in this plan have methods for measuring and recognizing success; however, it will be important to let the wider community know how things are progressing and to recognize the collaborative efforts of those involved in hitting the plan targets. At critical milestones, the City of Centennial and Xcel Energy will publish updates on progress, share successes, and congratulate participants and partners through various communication channels.

Beyond the Plan Horizon

Looking forward beyond the plan horizon, it is recommended that Centennial reassess the energy efficiency goals and successes achieved over the implementation period. Future updates to this plan may be necessary as goals are achieved and new energy opportunities and ideas emerge. Communities with a successful track record of implementing their goals are welcome and encouraged to apply to future Partners in Energy offerings if new community goals or opportunities arise.

Appendix 1: Glossary of Terms

Use whichever appendices are appropriate. The following is a preliminary glossary.

Community Data Mapping: A baseline analysis of energy data in a geospatial (map) format across the community.

Cooling Degree Day (CDD): number of degrees that a location's average daily temperature exceeds the temperature above which buildings need to be cooled

Demand Side Management (DSM): Modification of consumer demand for energy through various methods, including education and financial incentives. DSM aims to encourage consumers to decrease energy consumption, especially during peak hours or to shift time of energy use to off-peak periods, such as nighttime and weekend.

Direct Installation: Free energy-saving equipment installed by Xcel Energy or other organization for program participants that produces immediate energy savings.

Energy Action Plan: A written plan that includes an integrated approach to all aspects of energy management and efficiency. This includes both short- and long-term goals, strategies, and metrics to track performance.

Greenhouse gas (GHG): Gas in the atmosphere that absorbs and emits radiant energy within the thermal infrared range (primary GHGs include water vapor, carbon dioxide, methane, nitrous oxide, and ozone); GHGs are associated with affecting climate change.

Goals: The results toward which efforts and actions are directed. There can be a number of objectives and goals outlined in order to successfully implement a plan.

Heating Degree Day (HDD): number of degrees that a location's average daily temperature falls below the temperature which buildings need to be heated.

HOA: Home owners' association.

HVAC: Heating, ventilation and air conditioning.

LED: light-emitting diode.

kW: kilowatt (1,000 watts); a unit of electric power.

kWh (kilowatt-hour): A unit of electric consumption

MMBtu: One million British Thermal Units; a measure of energy content in fuels.

MTCO2e: Metric tons of carbon dioxide equivalent (MTCO2 Eq.); measure used to compare the emissions from different greenhouse gases based on their global warming potential (GWP). The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by its associated GWP.

MW: Megawatt (1 million watts); a unit of electric power.

Premise: A unique identifier for the location of electricity or natural gas service. In most cases, it is a facility location. There can be multiple premises per building and multiple premises per individual debtor.

Recommissioning: An energy efficiency service focused on identifying ways that existing building systems can be tuned-up to run as efficiently as possible.

RFP: Request for proposals (solicitation of services).

Solar Garden: Shared solar array with grid-connected subscribers who receive bill credits for their subscriptions.

Solar PV: Solar cells/panels that convert sunlight into electricity (convert light, or photons, into electricity, or voltage).

Subscription: An agreement to purchase a certain amount of something in regular intervals.

Therm: A unit of heat energy (natural gas).

Weatherization: Insulation, air sealing, weather stripping, etc., that improve the building envelope.

Appendix 2: Xcel Energy Program Offerings

Xcel Energy®

2017-2018 Rebate Summary

CO Residential Energy Efficiency Programs

Key*	Rebate area	Qualifiers	Rebate	More information
	Cooling			
	Evaporative coolers	Standard (window unit)	First-time install $300 Replacement $200	Rebate can't be more than total cost.
		Premium unit	First-time install $700 Replacement $600	Rebate for first-time install only available if additional equipment is listed on invoice such as pipes, valves
		Whole house system*	All $1,200	*Premium unit with 3 ducts or more
	High-efficiency AC or ASHP (air conditioners and air source heat pumps)	Below 14.5 SEER	Quality Installation** $100	**Available for existing homes only.
		SEER 14.5/EER 12	New equipment $0 Trade-in $500 Maximum rebate $500	The rebate is paid according to the lesser value of the SEER/EER. Example: A system with 16 SEER and 12.5 EER will receive a $350 rebate. AHRI certificate required.
		SEER 15/EER 12.5	New equipment $350 Trade-in $500 Maximum rebate $850	
		SEER 16, EER 13	New equipment $500 Trade-in $500 Maximum rebate $1,000	SEER = Seasonal Energy Efficiency Ratio HSPF = Heating Seasonal Performance Factor EER = Energy Efficiency Ratio
		SEER 17/EER 13	New equipment $650 Trade-in $500 Maximum rebate $1,150	
	Ductless mini-split heat pumps	15+ SEER, 11+ EER, 9+ HSPF	Maximum rebate $200	AHRI certificate required
	Ground source heat pumps	Minimum 3.3 COP and 14.1 EER	Maximum rebate $300 per heating ton	ENERGY STAR ® qualified, closed-loop systems
Key*	**Heating**			
	Furnaces	95% AFUE	$120	Only new furnaces located on **ahridirectory.org** qualifies for a rebate. Customers must have electric service to qualify for the ECM rebate, and gas service to quality for the furnace rebate. Qualifying customers may receive both a furnace and an ECM rebate
	Electronically Commutated Motors (ECM)	ECM in new or existing furnace	$100	
Key*	**Water heating**			
	Standard tank heaters	.67 EF	$70	Only new equipment located on **energystar.gov** or **ahridirectory.org.** qualifies for a rebate.
	Tankless heaters	.90 EF	$100	
	Electric heat pump heaters		$450	

Key*	Rebate area	Qualifiers and associated rebates			
	Air sealing and insulation				
			Natural gas heating, no AC cooling	**Natural gas heating with AC cooling**	**Electric resistance heating**
	Air sealing, bypass sealing, weather stripping (60% up to cap)	20% leakage reduction	$175	$300	$350
		30% leakage reduction	$250	$400	$450
	Attic insulation (30% up to cap)		$350	$500	$600
	External wall insulation, above grade (30% up to cap)		$350	$500	$600

*Please see key on next page

Key*	Rebate area	Rebate	More information
	Home energy audit		
	Infrared audit	$200	60% of the cost, up to $200
	Blower door audit	$160	60% of the cost, up to $160
	Standard audit	$100	60% of the cost, up to $100

Home performance with ENERGY STAR®

Begin with an advanced Home Energy Audit. Bundle three or more energy efficiency improvements with Home Performance with ENERGY STAR. Natural gas service customers without Xcel Energy electric service do not qualify for this rebate program. Customers should specify that they want the higher, bundled rebates before any work is performed by a contractor. Customers applying for Home Performance rebates cannot receive other Xcel Energy rebates for the same improvements.

Home improvement measures	Rebates for home performance measures		
Top three REQUIRED improvements (If listed as a recommendation in the customer's audit report)	Natural gas heating, no AC cooling	Natural gas heating with AC cooling	Electric resistance heating
High efficiency LEDs*	$2 per bulb up to $40		
Air sealing, bypass sealing and weather stripping* (60% up to cap)	20% leakage reduction $250	$400	$450
	30% leakage reduction $325	$500	$550
Attic Insulation* (30% up to cap)	$400	$600	$700
Optional improvements	**Rebates**		
Wall insulation, above grade (30% up to cap)	$400	$600	$700
Evaporative cooling – standard system (First-time install)	$325		
Evaporative cooling – standard system (Replacement)	$225		
Evaporative cooling – premium system (First-time install)	$725		
Evaporative cooling – premium system (Replacement)	$625		
Evaporative cooling – Whole house system	$1200		
Central AC-15 SEER, 12.5 EER	$400		
Central AC-16 SEER, 13 EER	$550		
Central AC-17 SEER, 13 EER	$700		
Central AC trade-in (with qualifying new equipment)	$550		
Ground source heat pump-Min. 3.3 COP and 14.1 EER	$300 per heating ton		
Programmable set back thermostat	$25		
95% + AFUE furnace	$200		
Electronically commutated motor (ECM)	$125		
Tankless water heater .90 EF or higher	$200		
Water heater .67 EF or higher	$100		
Electric heat pump water heater	$550		
ENERGY STAR refrigerator – primary	$15		
ENERGY STAR clothes washer	$30		

*If any of these three measures are a recommended improvement from the energy audit, they must be completed in order to successfully complete the program.

KEY: **Natural Gas:** This symbol indicates a program available to our natural gas customers. **Electric:** This symbol indicates a program available to our electric customers.

Participating contractor: This symbol indicates a program that requires customers to use an Xcel Energy participating contractor to install the equipment or make the improvement. Our list of registered contractors can be found at **xcelenergy.com/cotrades.**

Colorado

Business Programs Summary

We offer solutions for Xcel Energy electric and natural gas business customers through our suite of energy-efficient and energy management products that will help you increase your company's energy efficiency, reduce operating costs and improve your bottom line. We'll put our energy expertise to work for you.

This program summary provides a quick reference of the Xcel Energy rebate programs available to Colorado business customers. Programs are listed in one of two categories:

- **Custom projects, studies and audit-based incentives** provides you with an understanding of how your facility or unique systems use energy and identifies rebate opportunities. Programs range from free online energy assessments to on-site energy audits and in-depth, segment specific engineering studies. In most cases, Xcel Energy covers up to 75% of cost of the study. Custom rebate programs are available for energy-saving equipment purchases that aren't covered under our Prescriptive programs listed below. **Preapproval is required.**
- **Prescriptive rebate programs** offer a set rebate amount and are based on defined equipment and efficiency qualifications as listed on each program(s) application. **Preapproval is not required.**

Financing options for commercial energy efficiency projects are available. For more information visit **xcelenergy.com/BusinessEfficiencyFinancingCO**.

For more information about our rebate programs, please contact your account manager or our Business Solutions Center at **855.839.8862**, or **energyefficiency@xcelenergy.com**. Be sure to take a look at the program application for qualifying options.

To access additional information online, visit **xcelenergy.com/Business**.

Fuel types: Electric Gas

Custom projects, studies and audit-based incentives — Preapproval REQUIRED

Program name and benefits	Description of eligibility	Rebate/incentive/or pricing	Fuel types
Business New Construction • **Energy Design Assistance** Comprehensive consultation, computer modeling and verification of measures for new buildings, additions and/or major renovations Help towards green building certification and early analysis is available for select projects.	Projects at or greater than 20,000 sq. ft. and in the early design stage are eligible to apply for Energy Design Assistance. The program requires a 15% minimum savings above the EDA baseline for the basic track, and 30% minimum savings for the enhanced track.	Design assistance for the basic track, and reimbursement for early design analysis and certification in the enhanced track. Plus construction incentives for energy efficiency strategies at $450 per kW*, $0.04 per kWh, and $4 per Dth gas saved. Design Team reimbursement for time spent on EDA. *Increased incentive for projects with Intro Meetings dated between 1/1/2017 and 12/31/2018	
Business New Construction • **Energy Efficient Buildings** Offers rebates for new construction, major renovations and additions to buildings	Intended for buildings between 5,000 and 50,000 sq. ft., although any size building over 5,000 sq. ft. may apply. Applicants can take advantage of the program anytime prior to equipment bidding stage, however, are encouraged to review the process and rebates before completion of construction documents. Projects require savings from a minimum of two building strategies.	Rebates vary depending on equipment purchased and installed. Xcel Energy will offer you the opportunity to review energy efficiency measures within the building and provide recommendations to help offset costs of additional efficiency measures.	
Compressed Air Efficiency Lower your energy costs by increasing efficiency in your compressed air system. We help fund studies that pinpoint leaks or waste and identify recommendations, paybacks, rebate opportunities and estimated energy savings.	Study funding for system diagnosis is based on compressor size:		
	Less than 50 hp	No study funding available	
	50 hp – 99 hp	100% of study costs up to $2,500*	
	100+ hp	75% of study costs up to $15,000* *Study funding requires that customers fix at least 50% of the air loss caused by the leaks identified in the study.	
We also offer rebates for installing qualifying energy-saving equipment or making process changes that save energy.	Rebates for equipment upgrades or system improvements that result in lower energy use or higher production from your system.	Up to $600 per kW saved for project implemented from a study Up to $400 per kW for projects implemented without a study	

Custom projects, studies and audit-based incentives — Preapproval REQUIRED

Program name and benefits	Description of eligibility	Rebate/incentive/or pricing	Fuel types
Custom Efficiency Rebates for choosing energy efficiency measures that aren't covered under our prescriptive rebate programs	Projects that involve energy-saving measures that are not covered by our other energy efficiency programs, such as: • Replacing/purchasing old, less efficient equipment with new, higher-efficiency equipment • Improving efficiency of processes • Refrigeration, Humidification, Controls, Custom Lighting, Compressed Air, Motors, Heating and Cooling	Rebates up to $400 per kW saved Natural gas rebate of $4 per Dth (Xcel Energy business retail natural gas customer) Custom Efficiency rebates vary based on estimated energy savings. A preapproval letter will be issued to show the rebate amount.	
Data Center Efficiency Data center study funding plus rebates for implementing recommended energy-saving changes. The study will identify potential energy savings and: • Help build a business case for project approval • Detail how to run your data center at peak efficiency • Identify energy savings, cost estimates and rebate amounts for recommended projects	Studies can include a holistic or narrow (IT or facility only) analysis of data centers. All studies require preapproval for funding. Energy-saving projects for energy-efficient equipment replacement and system improvement measures specifically designed to address data center needs. All custom projects require preapproval.	Study funding: Xcel Energy will pay up to 75% of the cost of a data center study, not to exceed $25,000. Implementation rebates: Xcel Energy will pay up to $400/kW or $0.04/kWh, whichever is higher for preapproved projects. Contact an Xcel Energy account manager for details.	
Data Center Design Assistance Comprehensive consultation, computer modeling and verification of measures for new data centers or additions/major renovations to existing data centers	The project size is at least one megawatt of IT load and is in the early design stage. The program requires a commitment to achieve 5% minimum savings above the baseline.	Rebates of $400/kW and $0.04/kWh saved	
Energy Analysis The Energy Analysis program is a first step to help businesses identify ways to save energy and reduce costs. Our energy audit options provide the flexibility to choose the level of detail you'll receive from your facility's energy audit.	**Online Energy Assessment:** Quickly uncover potential energy savings for your facility with an online energy assessment. This free online tool interviews you about your equipment and operating conditions to uncover areas where energy and cost savings opportunities may exist.	**FREE** online energy assessment: **xcelenergy.com/EnergyAnalysis**	
	Onsite Energy Audit: For more detailed cost and payback information prior to starting your efficiency upgrades, we offer on-site energy audits. Xcel Energy sends an energy advisor to your facility to conduct a comprehensive audit of the facility and its energy use. You will receive a detailed report including energy conservation opportunities with the associated payback, savings, cost and available rebates.	Customers pay a small fee per energy audit. Please see the application form for more information.	
	Engineering Assistance Study: An in-depth engineering assistance study focuses on a major energy conservation improvement and helps build the project's business case. This study provides guidance when you are seeking to replace or upgrade a major process or system.	Xcel Energy will pay up to 75% of the engineering assistance study cost, up to $25,000; funding is based on the potential energy savings of the project and the cost of the study.	
Energy Information Systems Intended for large commercial and industrial business customers looking to enhance energy management capabilities through more visualization and analytics	EIS services will create three types of new savings measures: • New system or process automation opportunities • Low cost/no cost recommissioning opportunities • Behavioral or operation opportunities	Completion of phase 1 incentive up to 30% of EIS installation costs. Rebates up to $600 per kW saved and $4 per Dth (Xcel Energy natural gas customer) for custom projects identified	
Energy Management Systems Rebates for the purchase and installation of automated building controls	• New energy management system (EMS) where none existed • Adding functionality to an existing EMS	Rebates up to $600 per kW saved. Natural gas rebate of $4 per Dth (Xcel Energy natural gas customer).	

Custom projects, studies and audit-based incentives — Preapproval REQUIRED

Program name and benefits	Description of eligibility	Rebate/incentive/or pricing	Fuel types
Lighting Efficiency • **Advanced Lighting Controls** Rebates for purchase and installation of advanced lighting controls system	New advanced lighting controls system where none existed before	Xcel Energy offers $600/kW for lighting systems that are networked and controlled by a centralized system.	
Multifamily Buildings The Multifamily Buildings program is designed to engage multifamily building owners and operators in deploying efficiency measures to consume less energy.	Eligible property owners who have electric and natural gas service with Xcel Energy will earn an incentive in the form of no-cost direct-install measures or rebates for making approved electric and natural gas energy-saving improvements.	The Multifamily Buildings program offers three types of incentives: 1. Energy assessment to identify opportunities for improving building energy efficiency (free to customers that complete recommended direct-install measures) 2. Direct-installation of energy saving measures identified in the energy assessment. • High-efficiency LED lighting • Energy-efficient showerheads • Kitchen and bathroom faucet aerators • LED exit sign retrofits 3. Prescriptive or custom energy-efficiency improvements	
Process Efficiency Available to our industrial and large commercial customers to identify system improvements and design a long-term energy management plan	Cumulation of projects at any of the customer's facilities that has the potential to yield 2 GWh of energy savings. Also available to small industrial customers. Must have annual energy usage of at least 2 GWh.	Customized support including: energy management assessment, whole facility and sub-system study funding, metering, technical support, rebates, bonuses and training.	
Recommissioning Improve the efficiency of existing building operations by identifying existing functional systems that can be "tuned up" to run as efficiently as possible through low- or no-cost improvements.	Study funding for buildings 50,000 sq. ft. and above Additional incentives for implementing Recommissioning measures	Study funding: Xcel Energy will pay up to 75% of the cost of a Recommissioning study, not to exceed $25,000. Implementation rebates: Xcel Energy will pay up to $400/kW or $0.08/kWh, whichever is higher, and an additional $4/Dth for our natural gas sales customers.	
Self Direct Intended for our largest business customers, this program enables customers to self-manage energy efficiency measures at their facility. The customer is responsible for all of the design, engineering, measurement, verification and reporting work associated with the project.	Must have an aggregate peak load of 2 MW in any single month and an aggregated annual energy usage of 10 GWhs	Rebates based on actual project savings up to $525/kW or $0.10/kWh	
Small Building Tune-Up Assists small business customers to improve the efficiency of existing building operations. Through the Building Tune-Up audit, we identify functional systems that can be "tuned up" to run as efficiently as possible through low- or no-cost improvements.	Buildings between 5,000 and 50,000 sq. ft. of conditioned space can participate in the program. Xcel Energy sends an energy advisor to your facility to conduct a Building Tune-Up audit. You receive a detailed report identifying the potential energy savings of all low-cost/no-cost measures. Some measures are remedied during the audit so you'll realize immediate energy savings!	Customers pay a small fee per Building Tune-Up audit. Please see the application form for more information.	

Prescriptive Rebate Programs — Preapproval NOT Required

Program name and benefits	Description of eligibility	Rebate/incentive/or pricing	Fuel types
Commercial Refrigeration Efficiency Offers business customers with self-contained refrigeration units, walk-in coolers or freezers, or reach-in refrigeration systems a FREE REFRIGERATION ENERGY ASSESSMENT designed to identify system improvements that can lower energy use and qualify for rebate incentives. • As part of the free assessment, you'll receive complimentary products and services that can provide immediate savings results • Receive substantial rebate incentives for installing additional, more advanced energy-saving measures	Anti-sweat heater controls	$60 per door	
	Commercial dishwashers	$125–$250 per unit	
	Demand controlled ventilation	Rebates vary based on exhaust fan hp	
	Efficient fan motors for walk-in freezer or cooler	$70 per motor	
	Efficient reach-in cases with doors	$70 per linear foot	
	Efficient reach-in case doors	$113 per door	
	ECM fan motors in reach-in cases	$40 per motor	
	Evaporator fan speed controls	$35 per motor	
	LED reach-in case lighting	$45–55 per door	
	Night curtains for open coolers	$20 per linear foot	
	Retrofit of open multi-deck cooler cases with solid glass doors	$50–$75 per linear foot	
Compressed Air Efficiency We offer rebates for more efficient air compressors and components. After our rebates, it is very inexpensive to add no-loss air drains to a system. The drains purge fluids without wasting energy.	No-loss air drains	$200	
	Compressors that add or restore capacity	$1,000–$4,000	
	Compressors that replace in-service compressors	$4,000–$7,000	
	New VFD hp reduction not exceeding 20 hp of reduction	$4,000–$7,000	
	Cycling dryers	$1.50/CFM	
	Mist eliminators	$3/CFM	
	Purge controls	$1,000	
Computer Efficiency Provides cash rebates for replacing traditional desktop PCs with thin clients Provides cash rebates for commercial computers (PCs) that are controlled by remote powered management software	Thin clients are defined as including a small CPU, graphics coprocessor, RAM, and local storage like a soild-state hard drive, or simply flash memory, no operating system.	$60 per thin client installed	
	Zero client computing is defined as no client-side processing or management; no CPU, no memory, no drivers, no software and no moving parts.	$60 per zero client installed	
	Power management rebates are available for applications on desktop PCs that operate during a typical single shift operation and must prevent computer users from overriding the power management settings. The rebate does not apply to installations on laptops, tablets and other hardware such as virtual desktops, printers and monitors.	$5 per PC controlled by power management software.	

Prescriptive Rebate Programs — Preapproval NOT Required

Program name and benefits	Description of eligibility		Rebate/incentive/or pricing	Fuel types
Cooling Efficiency Cash rebates for replacing or updating your cooling system using the latest cooling technology	Anti-sweat heater controls		$60/Door	
	Chillers – centrifugal		$15 per ton plus $2/ton FLV + $1.50/ton NPLV for incremental efficiency	
	Chillers – scroll or rotary screw		$15 per ton plus $2/ton FLV + $1.50/ton IPLV for incremental efficiency	
	Direct evaporative pre-cooling for air-cooled condensers (DEPACC)		$100 per ton of installed cooling, for units ≥ 120,000 BTUH	
	Ductless mini-split AC – data center		$20 per ton plus $1.00 for incremental efficiency	
	Ductless mini-split heat pump		$50 per ton plus $2.00 for incremental efficiency	
	ECM – Refrigerated display case (medium temp.)		$40	
	ECM – Freezer display case (low temp.)		$40	
	ECM – Walk-in refrigerator (medium temp.)		$70	
	ECM – Walk-in freezer (low temp.)		$70	
	VFDs on chillers		$1.50/ton per IPLV for every 0.01 kW/ton below max	
Data Center Efficiency Cash rebates for replacing or updating data center operations using the latest technology	Plate and frame heat exchangers		Up to $400/ton based on wet bulb onset temp	
	EC plug fans		Retrofit (of existing units): $1,200 per fan (below floor or in-unit) New Installation (New units equipped with EC motor plug fan): $700 per fan (below floor or in-unit)	
Heating Efficiency Cash rebates for new installation and upgrading natural gas heating systems. Only Xcel Energy retail natural gas customers are eligible. Plan A: Installation of a new boiler where there was no previous boiler in place, or the current boiler is no longer operational, or upgrade a functional hot water boiler. This includes: – Plan A-1: Hot water boiler ≥ 85% efficient (minimum efficiency) – Plan A-2: Hot water boiler ≥ 92% efficient (minimum efficiency)	Boiler system tune-ups		Prorated $250 per million BTUH, per boiler every two years only.	
	Electronically commutated motor (ECM) for furnace fan		$100 per motor	
	Furnace		$80 for 92% AFUE; $120 for 94% AFUE	
	Modular burner control ≥ 5:1 turndown		$750 per million BTUH; $2,000 maximum	
	Outdoor air reset controls		$250 per million BTUH	
	Pipe insulation		$2 to $4 per linear foot per inch of pipe diameter. Defined based on average fluid temperature, minimum insulation thickness and pipe diameter	
	Plan A-1: Hot water boiler ≥ 85% efficient (minimum efficiency)		$750 per million BTUH	
	Plan A-2: Hot water boiler ≥ 92% efficient (minimum efficiency)		$3,500 per million BTUH	
	Stack dampers		$250 per million BTUH	
	Steam trap replacements		25% of trap cost up to $250 per trap; maximum $10,000 per facility	
	Unit and infrared heaters	Non-condensing unit heater	83% efficient – $50/100,000 BTUH	
		Condensing unit heater	>90% efficient – $500/100,000 BTUH	
		Infrared heater	80% efficient – $125/100,000 BTUH	
	Water heater >150,000 BTUH/≥ 92% efficient (minimum efficiency)		Prorated $200 per 100,000 BTUH	

Prescriptive Rebate Programs — Preapproval NOT Required

Program name and benefits	Description of eligibility	Rebate/incentive/or pricing	Fuel types
Lighting Efficiency • **New Construction** Rebates for purchasing and installing energy-efficient lighting equipment in new construction facilities	Canopy lighting	25W to 60W – $20 to $25 per fixture	
	High-bay fluorescent T8s, T5HO and T8VHO with various total wattage per fixture	$10 to $20 per fixture	
	LED outdoor area lighting	45W to 550W – $35 to $90 per fixture	
	LED parking garage fixtures	25W to 83W – $25 to $35 per fixture	
	LED street lighting	55W to 209W – $25 to $75 per fixture *Please see rebate application for full eligibility requirements	
	LED wall pack fixtures	25W or less – $15 per fixture: 25W to 60W – $30 per fixture; Greater than 60W – $50 per fixture	
	Light-emitting diode (LED) lamps and fixtures	This is now offered through our Business LED Instant Rebate program. To find a local distributor please visit businessledinstantrebate.com/Locator/Distributors.	
	Low wattage 4-foot fluorescent T8 lamps (28 Watts or less)	$1 per 28W lamp; $2 per 25W lamp	
Lighting Efficiency • **Retrofit** Rebates for purchasing and installing energy-efficient lighting equipment in an existing building retrofit	Downlight fixtures (Replacing incandescent and fluorescent systems)	10W to 25W – $25 to $35 per fixture 26W to 50W – $35 to $50 per fixture	
	Exterior LED canopy and soffit fixtures	25W to 60W – $100 per fixture; Greater than 60W – $125 per fixture	
	High-bay fluorescent fixture for T8, T5HO and T8HVO with various total wattage per fixture	$35 to $100 per fixture	
	LED or LEC exit signs	$25	
	LED high/low bay fixtures	95W to 625W – $40 to $250 per fixture	
	LED outdoor area lighting	45W to 550W – $100 to $250 per fixture	
	LED parking garage fixtures	25W to 60W – $135 per fixture 61W to 83W – $150 per fixture	
	LED pin-base lamps	$7/lamp	
	LED street lighting	55W to 209W – $60 to $100 per fixture	
	LED tubes	Type A, Type A/B, and Type C tube rebates – $2 to $18 per tube	
	LED wall pack fixtures	25W or less – $35 per fixture; 25W to 60W – $75 per fixture; Greater than 60W – $100 per fixture	
	Light-emitting diode (LED) lamps and fixtures	This is now offered through our Business LED Instant Rebate program. To find a local distributor please visit businessledinstantrebate.com/Locator/Distributors.	
	Lighting Optimization	T8 to T8 – $12 per fixture; T12 to T8 – $10 to $12 per fixture	
	Low-wattage 4-foot fluorescent T8 lamps (28 watts or less)	$1 per 28W lamp or $2 per 25W lamp in addition to the standard rebate	
	Luminaire – level lighting controls	Integral occupancy sensor – $20 per fixture	
		Integral Photo Sensor – $8 per fixture	
		Integral occupancy and photo sensor – $28 per fixture *Please see rebate application for full eligibility requirements	
	Mogul screw base lamps	40W to 230W – $40 to $75 per fixture	
	Occupancy sensors and photocells	$15 to $40 per fixture	

Prescriptive Rebate Programs — Preapproval NOT Required

Program name and benefits	Description of eligibility	Rebate/incentive/or pricing	Fuel types
Small Business Lighting Includes a free lighting assessment plus lighting retrofit rebates for small to mid-sized business customers. Please call 877.287.2250 to verify eligibility and to schedule an assessment.	The Small Business Lighting program offers rebates and special services for small and mid-sized business facilities that have peak demand of 400 kW or less. Small business customers under 100 kW also qualify for direct installations at the time of the assessment.	**FREE LIGHTING ASSESSMENT** with cost-saving recommendations, plus rebates for implementing recommended lighting upgrades Start-to-finish oversight of your lighting upgrades Assistance with rebate paperwork and information on contractors Prescriptive rebates are identical to Lighting Efficiency retrofit rebates (see above).	
Motor & Drive Efficiency • **Constant speed motor controllers**	Controllers that save energy while a motor is continuously operating	$188 to $3,000, depending on application	
• **Drives** Prescriptive rebates are available for variable frequency or adjustable speed drives.	For drives placed on 1 hp–200 hp sized motors that are used on fan or pump systems	Rebate varies by hp with a range of $400 to $10,500.	
• **Motors** Prescriptive rebates are available for new motors that exceed energy efficiency standards.	Motors with efficiencies that exceed energy efficiency standards by minimum amounts Examples may include “IE4” motors or motors of various other designs that meet minimum thresholds.	Rebate varies by motor type, hp and whether the motor is for new capacity or early retirement of a working motor. Range of $25 to $5,500	

Business Solutions Center **855.839.8862**

Colorado